Virginia Medical Monthly

Official Organ of the Medical Society of Virginia

Vol. 51, No. 8.
WHOLE No. 869.

RICHMOND, VA., NOVEMBER, 1924

20 CENTS A COPY
$2.00 A YEAR

Original Communications

FIBROID TUMORS: THEIR DEVELOPMENT AND HOW THEY PRODUCE SYMPTOMS; THEIR EFFECT ON PREGNANCY AND LABOR; TREATMENT.*

By JOHN OSBORN POLAK, M. D., Brooklyn, N. Y.

A fibroid tumor is the most common form of uterine neoplasm; while histologically it is benign, it possesses great potentiality for harm. The development of fibroids is limited almost wholly to the period of sexual activity. From five to twenty per cent of women over thirty have these tumors, and it has been stated that a fibroid or fibroids may be found in forty per cent of the women who have reached the age of fifty years. Fortunately, few of these tumors produce symptoms; few are of large size, but all grow under the influence of repeated menstruation and pregnancy, and all fibroid tumors will bear watching.

In this age, with its rapid development of surgery, perfected aseptic technique, and the use of X-ray and radium therapy, almost all fibroids are receiving some form of treatment, often by men not trained in pathology or gynecological diagnosis; consequently the practitioner is confused in his consideration of fibroids, their life history, their dangers, their symptoms and the indications and contraindications for their treatment.

It is my purpose in this short contribution to correlate (1) the accepted clinical facts relative to myomata; (2) demonstrate to you how they develop and grow, and (3) what allied conditions change the rate of their growth; (4) how and why they produce symptoms; (5) what pathological changes they may undergo; (6) their influence on pregnancy and labor; (7) and finally, to describe what types of tumors are amenable to X-ray and radium, what types require surgery and which form of growth requires no treatment at all.

Their origin is uncertain; many theories have been advanced but none have been proven. It is probable that fibroids develop from congenital rests, or fetal misplacements of fibrous tissue in and about the wall of the blood vessels within the uterine muscles. These congenital rests appear as solid growths, are due to a proliferation of muscle and connective tissue elements in the myometrium around the different rest centers.

Clinically, it has been observed that the pituitary type woman, who has from the beginning of her menstrual life an anteverted or anteflexed uterus with a relatively large uterine body, develops fibroids. These patients always flow freely, may have comenstrual dysmenorrhoea; and are frequently sterile. Furthermore, it is shown that fibroids are usually multiple—not more than one or two per cent occur singly; and their most common location is in the posterior wall of the body of the uterus.

It is not within the purpose of this paper to enter into the discussion of the histology, or to discuss the difference in the tissue consistence between myomata and fibromata, but rather to consider all of these growths as fibromyomata, originating primarily as intramural tumors. Whether they remain as such or become evolved inward or outward by the rhythmic uterine muscular contraction depends on the amount of muscle tissue on either side of the tumor.

(1) A fibroid situated in the muscular coat of the uterine body with muscle tissue entirely surrounding it is called interstitial or intramural.

(2) When the tumor grows toward the mucous membrane, being evolved inward and projecting into the uterine cavity carrying the endometrium with it, it is classed as a submucous tumor.

All masses that are extruded into the uterine cavity (the contractile zone), sooner or later may become pedunculated. In the case of a fibroid, the tumor is forced into the cavity by muscular contraction carrying with it its endometrium, stretching it and causing an atrophy of the overlying layer. When the growth is evolved toward the peritoneal sur-

*Read by invitation at the fifty-fifth annual meeting of the Medical Society of Virginia at Staunton, October 14-17, 1924. This address was elaborately illustrated with lantern slides.

XUM

face of the uterus, and is extruded outward between the folds of the broad ligament, it is naturally termed intraligamentous; while when it grows from the lower segment of the uterus, raising the bladder above it, it is described as subvesical. Occasionally, fibroid tumors originate from the lower posterior wall of the uterus, below the insertion of the uterosacral ligaments. Such a tumor may fill the culdesac, raise the peritoneum lining the Douglas sac, and is known as retroperitoneal. Myomata are made up of unstriped muscle and fibrous tissue in varying amount—the fibrous tissue is in excess of the proportion usually found in the wall of the uterus—hence the tumor is called a fibromyoma. On gross section the fibrous tissue is seen to be arranged in crescentic layers or whorls.

Myomata, as a rule, are distinctly circumscribed tumors, being *in* but not *of* the surrounding tissues. They are enveloped by a zone of reticulated vascular tissue (their capsule) from which they derive their blood supply. Hence, the vascularity of the tumor is extremely variable, depending on its location and its relation to the larger uterine vessels. Myomata, as a rule, are not well vascularized, which accounts for the many degenerative changes they undergo. The submucous type has the poorest blood supply, consequently is the most prone to necrosis and other pathological conditions depending on a paucity of nourishment. On the other hand, the interstitial growth completely surrounded with muscle and receiving its nourishment from the vessels of the uterine wall is apt to have degenerative changes.

The subserous growths arising from the lateral fundal wall carry their circulation with them while they grow, as they push the uterine vessels before them. This type of growth frequently attains large size and may become pedunculated, which in turn subjects it to the possibility of torsion, red degeneration and other circulatory changes. The rate of growth is usually slow; more so in tumors having an excess of fibrous tissue and a limited blood supply. The rapidity of growth is usually in inverse proportion to the age of the patient. The younger the patient, the more rapid is the rate of growth. This is explained by the incidence of pregnancy and the activity of sexual life which occurs during this period. Just before each menstrual period, fibroids are observed to increase in size; the size of the tumor rapidly increases during pregnancy, only to atrophy, and occasionally disappear during involution. The tumor may become smaller after the menopause.

At this time small interstitial growths stop growing and atrophy; others show no change in size, but postpone the cessation of the monthly periods.

Submucous and subperitoneal growths are unfavorably influenced by the menopause as their circulation becomes disturbed, hence they may undergo degenerative changes or be complicated with malignant disease.

A myomatous growth in the uterus changes its shape, size and consistency. The uterus is usually considerably hypertrophied, and the endometrial cavity elongated and distorted.

The endometrium may be normal or affected by the pressure and circulatory disturbances produced by the tumor.

In submucous growths, the endometrium is over-stretched, thinned and atrophied so that the remaining glands lie parallel to the free surface of the tumor or may have entirely disappeared. The blood vessels (the veins) are dilated and appear as sinuses; actual erosion may occur. But little endometrial change takes place in small interstitial or subperitoneal tumors.

Fibroids are benign growths, do not always impair the general health, and often produce no symptoms. When they do produce symptoms, these may be classed as those that are:

(a) Suggestive.
(b) Characteristic.
(c) Confirmatory.

Suggestive symptoms are:

(1) Menorrhagia with its secondary circulatory effects, i. e., anemia, increase in pulse rate, palpitation, dyspnea, hemic murmurs, etc.
(2) Dysmenorrhoea—comenstrual pain.
(3) Sterility and abortion.
(4) Pressure effects—as evidenced by frequency, dysuria, difficult defecation, hemorrhoids, unilateral sciatic pain, edema, or varicosities.
(5) Leucorrhoea.
(6) Digestive disturbances.

Menstrual hemorrhage is common in interstitial and submucous (sessile) growths, while intermenstrual bleeding is suggestive of pedunculated submucous tumors. The bleeding is not from the tumor, but from the endometrium stretched over it and opposite the tumor mass,

a diapedesis through the walls of the capillaries from venous obstruction.

Menstrual pain is common in interstitial and submucous fibroids, even before the tumor attains large size; there may be no pain in subserous growths.

Pressure symptoms may result from tumor pressure on the bladder, ureters, rectum, pelvic veins and nerves, or result in digestive disorders from pressure or adhesions which interfere with the functions of the bowels or stomach.

Characteristic Signs are always apparent on physical examination and reveal a tumor connected with the uterus or in it, usually asymmetrically enlarging it. The tumor is inseparable from the uterus—smooth, hard, nodular and sharply de ined; usually insensitive and the uterine canal is elongated and tortuous. A uterine bruit is present in two-thirds of all myomata. Intraligamentous tumors always displace the uterus.

In fibrous polypi, the cervix is generally more or less dilated and the finger will detect the effacement of the lower segment or the protrusion of the smooth tumor mass into the cervical canal.

As a Confirmatory Sign the outline of the tumor may be demonstrated by the production of a pneumoperitoneum and by fluoroscopy. All fibroids are subject to pathological change. Edema is common, especially in pregnancy. Edema is an early stage of necrosis; if persistent the tumor becomes fibrocystic. Atrophy may take place in intramural growths; at the menopause or during the puerperium. Red degeneration occurs from sudden cutting off of the nutrition without infection; it is a common change during pregnancy or after delivery. The tumor rapidly enlarges, becomes soft and sensitive; there is a slight elevation of temperature and a moderate leucocytosis. Calcification and cystic degeneration are changes usually found in subserous tumors.

Septic infection and necrosis from torsion may occur in both submucous and subserous growths.

Every fibroid should be serially sectioned, for the incidence of sarcoma and carcinoma is sufficiently large to seriously effect the prognosis.

Fibroid tumors complicate pregnancy and labor. This may also cause sterility, and if the patient does conceive, favor the occurrence of abortion, or they may grow to such a size during pregnancy as to embarrass the cardiac and respiratory functions of the woman.

Torsion and red degeneration are relatively common complications during pregnancy. While a pedunculated tumor may be removed without disturbance of the pregnancy, myomectomy of interstitial growths should never be considered. The majority of tumors do not interfere with labor except by producing malposition of the fetus, because they are lifted out of the pelvis in the course of uterine contractions and dilatation. Only cervical growths incarcerated in the pelvis obstruct labor. It is wise, therefore, to let the woman with the fibroid have a test of labor under intelligent supervision, for many deliver spontaneously. When labor is obstructed, section and hysterectomy are the procedures of choice.

Treatment: Many fibroids need *no treatment*, for they produce no symptoms and do not grow for long periods of time. But all women who are the subjects of fibroid tumors should be under observation, reporting for examination at definite intervals. Fibroids demand treatment for the control of hemorrhage, relief of pressure, rapid or progressive growth, torsion and degenerative changes. Bleeding may always be controlled by rest, packing, X-ray and radium. Drugs have little effect. The curet, aside from its diagnostic value, has no place in the treatment of hemorrhage from fibroid.

Radium may be used for the control of hemorrhage in tumors, *within the confines of the uterus*, if the tumor is not larger than a three months' pregnancy, and is without adnexal growth or parametrial or peritoneal inflammatory lesions.

Before subjecting any woman to X-ray or radium therapy, she should be examined under anesthesia to determine the exact relation and location of the tumor mass or masses, and a diagnostic curettage should be made to exclude malignancy. All scrapings should be submitted to the pathologist.

Our contraindications are similar to those set down by Keene:

(1) Tumors larger than a three months' pregnancy.

(2) Rapidly growing tumors which suggest progressive changes.

(3) Tumors producing pressure symptoms.

(4) Tumors associated with pelvic pain.

XUM

(5) Pedunculated tumors, in which radium only increases the necrosis.

(6) Tumors with adnexal pathology.

(7) Tumors with associated secondary anemia (cachetic look) in which the uterine hemorrhage has not been sufficient to account for the degree of anemia.

(8) Tumors in young women.

(9) Multiple submucous tumors distorting the uterine cavity—radium in these is likely to produce pyometra,—and finally, in cases where the tumor mass cannot be definitely differentiated, and in women who fear radium. All of these cases require myomectomy or hysterectomy.

20 *Livingston Street.*

THE PLACE OF CHRONIC SEPSIS IN THE FUTURE OF MEDICINE.*

By R. L. RAIFORD, M. D., Sedley, Va.

The discoveries of Pasteur and others as to the part played by bacteria in acute diseases paved the way for the most rapid progress in medicine and surgery during the past half century that the healing art has yet known. In fact, all of modern surgery and most of modern medicine is built up on our knowledge of the activities of the little fellows we call germs and on our ability to counteract their ravages on the human system.

The wonderful work of such men as Gorgas, Reed and Stiles in preventing disease will go down in history as among the most outstanding achievements for the uplift of mankind the world has ever known. The discoveries made by Lister and others, which have enabled the modern surgeon to enter any part of the human system with impunity, have placed surgery on a pinnacle of achievement little dreamed of by even the most progressive men of a generation ago. The work of the Child Specialist in the past few years has shown us what wonders can be done in their special field by the application of a little "horse sense" in the way of correcting diet and habits and in the removal of physical defects. Our public health boards are saving millions from an untimely grave by the dissemination of knowledge along the line of preventable diseases. So well have our efforts along the line of better health for babies and children, and the stamping out of preventable diseases borne fruit, that the average life of man has been lengthened a decade in a little over one generation.

But when we save babies from an early grave and halt the ravages of such diseases as smallpox, typhoid and malaria, there are proportionately just that many more people to die in later life from some other cause, and mortality statistics show that the death rate in the forties and fifties has been steadily increasing for some years.

A great authority has made the statement that the average man or woman would reach the ripe old age of at least ninety were we dependent on the deterioration of years alone to help us cast off this mortal coil. Some one answers that the high-speed age in which we live is causing premature senility to claim more victims than in the grand old days of our forebears. Let us grant that in a measure this is true, and yet we have but to think of the untimely death of so many in the very prime of life to realize that some as yet little known force, a juggler whose game is as insidious as it is certain, a master of destinies, whose unerring hand often strikes where frail man least suspects the blow to fall, a cause of death other than that usually found in the records of death certificates, is abroad in the land.

We may hunt the records of vital statistics, however accurate they may purport to be, and yet gain little knowledge as to the real cause of exit of many patients. To say that death was caused by angina pectoris or aortic insufficiency, by parenchymatous or interstitial nephritis, by duodenal ulcer or biliary calculi, by hemiplegia or arteriosclerosis, explains nothing as to the real or primary cause, as all of these are terminal conditions and secondary to some long-standing insidious influence that may never have been suspected, the symptoms of which we must learn to recognize early if we would save this class of cases.

Many a doctor has often, when called on to fill out a death certificate, been at a loss to designate the exact cause of death, since the patient has passed out as a result of something which was associated with a complication of chronic symptoms, and it seemed impossible to designate which trouble was most at fault. The difficulty arises from the fact, that in so far as chronic conditions are concerned, we are still classifying our patients largely according to the chain of symptoms they may happen to have. In even our most modern text-books,

*Read at the fifty-fifth annual meeting of the Medical Society of Virginia, in Staunton, October 14-17, 1924.

chronic conditions classified as diseases are often not diseases at all, but merely symptoms. Most acute conditions are being properly classified as to nomenclature, cause and treatment, but when we turn to chronic ailments one can but think we are woefully at sea in this respect. We classify a case as a gastric neurosis only to find it next month under what we must term neurasthenia. We charge conditions to the dysfunction of first one of the endocrine glands and then of another, in our desperation to hand over to the family a diagnosis that will stay put. In the field of psychiatry, when after weeks or months of study, the fatalistic diagnosis of dementia praecox has been made, it is not impossible to have such a change of symptoms occur as to completely upset such findings altogether.

You are, perhaps, wondering why all this chatter about causes of death, nomenclature of disease entities, etc., but it is the study of just such things, coupled with the study of the patients that come to us for relief, which enables us to unravel the causes of their complaints and to apply the proper treatment.

I am convinced that the most important duty any physician owes to his patients is that of making a correct diagnosis. Treatment, whether medical or surgical, is not only useless but so often actually harmful unless the diagnosis is correct. I am further convinced, after a careful study of my own mistakes of diagnosis, as well as those of other men I have had chance to observe, that a very large per cent of them are made by not looking, rather than by not knowing. A little more persistence and a little more energy properly applied would clear up many a doubtful point in the case of the average patient.

Until comparatively recent years we were still thinking of many acute conditions as without a cause. Idiopathic peritonitis and idiopathic pleurisy are examples of the fallacy. Now we know that such conditions have as their cause a sudden acute activity of bacteria in the particular location affected. For an explanation of such errors we have but to remind ourselves that medicine was born in an atmosphere of mystery and empiricism from which even the most up-to-date physician finds it difficult to wholly extricate himself. At first nothing definite was known of the actual cause of either acute or chronic maladies, but as time went on the old masters of medicine began to investigate and deduct and to study the theory of cause and effect as applied to their chosen profession, and to prove that at least in some instances the science of the healing art was an exact science and that there were definite causes for certain symptoms or groups of symptoms. As a result, the outstanding men of the profession have finally explained a cause for practically all symptoms arising from acute diseases.

The pediatrician has almost completely discarded the old methods of treating children, and by correcting the errors of diet and habit and by removal of physical defects, has shown how little good drug therapy, except for relief of symptoms, does in this class of work.

The general practitioner and the specialist have to some extent followed suit and are handling acute diseases in adults by correcting the cause rather than by treating symptoms.

It now remains for us to adopt an equally sane method in treating our chronic patients. We are prone to say that these patients are of a neurasthenic or rheumatic type, that they have intercostal neuralgia or tic douloureux, or that it is just a case of nerves, and to dismiss or treat them accordingly, instead of diving in and trying to find out the real cause of such symptoms and setting out to remove them.

Regardless of whether we believe it or not, the time is fast approaching when even the last stronghold of empiricism—namely, our dealing with the various psychoses, especially the so-called functional insanities—will be broken down by placing these disturbances in a class where effect can result only when there is a cause, for the words functional or idiopathic can have no more place in medicine than in any other science.

It is not my province to prove the relation of focal infection to systemic disease or to evaluate its removal in clearing up symptoms arising therefrom. It is only necessary that we accept as proven the fundamental principles which, originating with Pasteur, have formed the modern conception that bacteria and their products are to be looked upon as the primary cause of disease. Following up this idea, experience, study and observation has convinced me that the most plausible explanation for the heretofore unexplainable causes of chronic symptoms is to charge them up to the influence of chronic foci of infection, or what is perhaps a better term, chronic sepsis, since this would

XUM

cover the activities of the causative bacteria wherever found in the system. In this connection "unexplainable causes" is used advisedly as there is no intention in this paper of dealing with the well-known factors of diet, habits and environment in their relation to disorders of the system.

If, then, we may assume that so many of the chronic complaints which cause people to seek their physicians are chargeable to chronic sepsis, it will be interesting to know something of the kind and qualifications of the germ or germs which are responsible for such infections. While many kinds of bacteria may be found present and held accountable for the symptoms arising from a given focus, it is generally conceded that the streptococcus is most often the offending organism. In this connection it is well to remember that streptococcus is a generic term referring to a great many different strains, which, while morphologically indistinguishable, have many different types with their individual cultural and pathogenic characteristics. The importance and character of these various strains have been as yet only partially studied, but it is believed that this work will constitute much of the future progress of medicine.

While for years it has been recognized that the streptococcus in its varied forms has been the causative factor in certain disease conditions, such as rheumatic arthritis, cellulitis of all types, endocarditis and others, these conditions are either acute or subacute and present symptoms of pain, fever and other phenomena far different from those which are grouped under the term of focal infection. This condition is very chronic and often devoid of any sign or symptom which might lead us to suspect its locality in the system.

You will, perhaps, wonder how the streptococcus family can be chargeable with so many ills of our bodies, both acute and chronic. However, such seems to be the case and the only explanation that can be offered is found in a close study of the habits and characteristics of these little fellows.

In the laboratories of the New Jersey State Hospital, at Trenton, Dr. Cotton has been able to isolate ten strains of this family group, five hemolytic and five non-hemolytic. Representatives of both these groups have been found in various sources of culture.

A close scrutiny of the studies of such men as Billings, Rosenow, Cotton and others leads one to the very definite conclusion that the most versatile gentleman of the bacteriological world is this little fellow we call the streptococcus. He has learned that in union there is strength, for he always works in groups arranged in chain-like formation. His habits and activities are as varied and diversified and as adaptable to circumstances as those of man himself. He can assume the role of the patient spider as he lays dormant and unsuspected at the apex of a tooth and sends out his cohorts to wreck havoc on the distant heart or kidney. A Napoleon or a Caesar never struck more boldly than this little fellow often does in cases such as the one which sent young Calvin Coolidge to an untimely grave. His activities are often as unsuspected as a Jackson, or as dogged and determined as a Grant; or he may be as insidious and as void of sentiment as a Jesse James. In fact, there is no attribute of human nature but could be simulated by this little prince of the bacterial kingdom.

This, then, is the chief actor in the role of chronic sepsis, the characteristics and activities of whom makes him by far the causative agent of most of man's chronic ills, and the deciding factor which brings us up to the necessity of signing the death certificate of so many of our friends of middle and later life.

Since we are assuming that chronic sepsis, and not merely kidney troubles, heart troubles, digestive troubles, nervous troubles, etc., of whatever name, is the real cause of so many chronic symptoms and that the streptococcus is the chief causative agent, it will be only fair to state how it all comes about.

Time will not permit a discussion of how and why infections originate, but it is a well known fact that chronic infections originate in the teeth and tonsils and from here, by continuity of tissue, or by the lymph and blood streams, may be disseminated to other parts of the body, creating secondary foci. It would be a beautiful dream were we able to stop the occurrence of primary infections, but unfortunately in the average patient who seeks our aid we must necessarily deal with more or less terminal conditions, and to get results in treatment we are obliged to remove the foci of infection, wherever found, leaving prevention largely to the future.

This removal can never be thorough, bacteriologically speaking, thus accounting for

XUM

failure of results in some cases. The wonder, however, is not that we sometimes fail in getting satisfactory results in following out this theory of clean-up work in our patients with long standing chronic symptoms, but that in so large a percentage of them we get such great and often prompt improvement.

A study of the elective localization of bacteria as enunciated by Rosenow, leads us to the opinion that such things as gall tract infection, appendicitis, gastric ulcer and renal calculi are so because of chronic sepsis found in the mouth, nose and throat. If this be true, just think of the stupendous amount of human suffering, the expense and the lives that might be saved by a little more aggressive persistence in study and activity in treatment along the line of cleaning up focal infections as related to these conditions alone. I believe the time is fast approaching when the man who removes a gall-bladder or an appendix will automatically feel that some one somewhere along the line has slipped a cog and failed to recognize symptoms which, had they been taken as a warning, would very likely have enabled the physician in charge to prevent his patient from coming to the point where a major operation was imperative.

During the past two years it has been my privilege to observe first-hand much of the work being done at Trenton by Dr. Cotton, among so-called functional insanity cases, and it is truly marvelous to see the results obtained. In a recent address Dr. Cotton emphasized the fact that the doctrine of masked infection, or chronic sepsis, is just as applicable in the treatment of systemic disorders as in the treatment of the various psychoses.

For some time I have been paying especial attention to the complaints of chronic patients with the view of ascertaining their cause. In this work I have been fortunate in having the active co-operation of a splendid dentist without whose aid much of the work could not have been done. We have grown to think of practically every chronic symptom which cannot otherwise be explained as a challenge to look for the cause in the form of some focus of infection. By so doing we have been able in a small community and with little laboratory facilities to get results in many cases where the most approved and exhaustive studies in diagnosis and treatment along old lines had absolutely failed. In fact, one of the strongest points to be made in favor of the doctrine of chronic sepsis is its simplicity and ease of application. It is, of course, very desirable to have at one's disposal a modern laboratory and a trained corps of assistants, but the results that we have obtained are convincing that the lack of such things does not prevent the treatment of chronic patients from this point of view.

While it is very interesting for us to know, it makes little actual difference to the patient what form of digestive disturbance or anemia he has so long as clearing up an old symptomless antrum infection cures it. Nor does the family care in what particular class of insanity our diagnosis places one of their loved ones if the removal of some impacted molars will restore them to mental health again.

At a recent medical meeting a prominent physician, when called on to make some remarks on the subject of focal infection which was being discussed, answered by saying, "that question was thrashed out ten years ago," and this closed the incident in so far as he was concerned.

The last word has not been said on this subject. Let us get this fact indelibly fixed in our minds, for we are just beginning to get a glimpse of the possibilities of its future influence and application in its relation to chronic conditions, and if it is the plausible working theory that it now seems to be, much that is in vogue in even our most modern medical literature, relative to chronic diseases, will have to be completely rewritten.

Personally, the more I have been able to study the theory of chronic sepsis and apply it in my chronic work the more interesting it has become. It has transformed the reading of medicine from a tiresome duty into a pleasant pastime. Many of the results obtained from what I like to term my clean-up work have seemed little short of miraculous, and by persisting along this line I have grown to like to see the old chronic come in, whereas I used to dread to have him come. It is surely a wonderfully, well-working theory for the clearing up of the average chronic case.

It is marvelous to think of what great strides we have made in recent years by our treatment of acute conditions from the standpoint of acute infection as the cause. Preventive measures are fast relegating to the past once-familiar diseases and the ambitious doctor must

XUM

needs soon look for other foes to conquer. The opportunities in the better management of chronic diseases are unlimited. Is it too much to hope that in the closer application of the principles of the doctrine of chronic sepsis in this field lies the opportunity for even greater achievements of our noble profession in the near future?

SOME THINGS FOR THE CONSIDERATION OF THE GENERAL PRACTITIONER.*

By BITTLE C. KEISTER, A. M., M. D., Washington, D. C.

In view of the many achievements made during the past half century along all lines of medicine and surgery, and since the practice of medicine has been diverted into so many unnecessary channels, it behooves the regular practitioner of Medicine to begin to take notice, as well as take an inventory of his work, making a careful survey of his legitimate field, at the same time observing his cordial relations to the various recognized branches of the profession.

The present-day tendency of the profession seems to be developing into a state of "specialism," and I may add "commercialism," and this should not be overlooked or treated too lightly by the leaders and loyal members of the profession. While I would honor the well-grounded, educated specialist as a teacher of his special branch of our great science, and also as a practitioner in certain recognized and limited spheres, yet I must deplore most seriously the tendency of the modern, pseudo-specialist, whose functions seem to extend far into the field of the general practitioner. All honor to the well-grounded, conscientious surgeon, ophthalmologist and neurologist, whose success depends largely on the co-operation of the general practitioner. In this fast age of "*get rich quick*," we have many pseudo-specialists, whose education and training are limited wholly to a superficial knowledge of their specialty, ignoring, as it were, the etiology, physiology and pathology of disease.

Among this large class of specialists, we have Drs. Heart, Lung, Kidney, Brain, Stomach, Prostate, Liver, Gall-Stone, Cancer and old Dr. Piles. All of these, we may say, belong to the general practitioner, and are his ungrateful "step-children." It is a well-known fact that the regular up-to-date physician of the twentieth century has had superior educational advantages in his college course, his post-graduate and laboratory courses, saying nothing of his diversified and rare experiences with the different phases of humanity, including the psychological side of medicine, which today is rapidly becoming a very important factor in the practice of medicine.

We also have another class of pseudo-specialists, which are of more recent origin but veiled in obscurity and chicanery. I refer to the many faith-healers, auto-suggestion, etc.; we also have the bone-adjusters, the chiropractors, osteopaths, nature-fakers, etc.

Any well-educated, well-rounded, well-equipped general practitioner of the twentieth century should be able to do as good and scientific work as any of the above mentioned specialists. To further emphasize this part of my subject, I desire to state from personal experience and observation of the modern modes of teaching in the various standard universities and post-graduate schools of both this country and in Europe, I am thoroughly convinced that the field and function of the general practitioner are rapidly becoming greater and broader with each passing decade; and on his shoulders and skill will depend the burden and responsibility of the whole profession of medicine.

The day has already come when the surgeon's knife is held in strict abeyance until the trained eye and ear of the general practitioner are made prerequisites. This is as it should be, and the sooner these important facts are recognized by the entire profession, as well as the laity, the greater will be the success and honor attending the efforts of the conscientious surgeon.

There is no good reason why the regular family physician should not have a good working laboratory connected with his private office rooms and be able to make cultures, blood counts, etc., and do as good work as the ordinary bacteriologists. There is no better diversion for the busy physician than to spend a few hours in laboratory work once or twice a week; then it affords him a pleasure to be able to diagnose his cases of diphtheria, pneumonia, typhoid fever, gonorrhea, etc., without having to send specimens to the city bacteriologist, who perchance may be fifty or a hundred miles away, or possibly on his summer vacation.

*Read at the fifty-fifth annual meeting of the Medical Society of Virginia, at Staunton, October 14-17, 1924.

If we pause to consider the lines on which medicine has advanced during the past quarter of a century, it can be shown that the most important discoveries and results have come from the laboratory rather than from the sick ward. We may take diphtheria, for instance, which had been watched clinically for many years, but it was the discovery of the bacillus and the laboratory work that resulted thereform, which made the rational antitoxine treatment possible. It was the laboratory that made Lord Lister and Louis Pasteur world famous, and through their discoveries, the most improvement in the healing art that has ever been known to mankind. The recognition that anthrax is a pathogenic organism, was the starting-point from which the great growth and progress of the science of bacteriology has arisen. Discoveries quickly followed. Obermeir found a spirillum in the blood of patients suffering from relapsing fever, and now there are a score or more of pathologic fungi which are known to be injurious to the human race, and include some of the greatest scourges of the present day. These we may credit to the laboratory as a triumph.

There are many diseases, which from their characteristics, would seem to be of parasitic origin, such as smallpox, measles, cancer, rheumatism, etc., and we hope that we are on the eve of being able to demonstrate their specific microbe, but it is as yet hope only, not demonstration, as they still withhold their secrets.

In the investigations above alluded to, the results have been laboratory rather than clinical triumps, though not entirely so. It is the harmonious union of the work of both clinical and laboratory sources that insures success to the conscientious, energetic physician.

It is cases suffering from diseases of the alimentary, circulatory, respiratory, and urinary systems, that keep our hospital beds filled. These afford an infinite amount of material for clinical study; yet, speaking broadly, it is in these groups that the smallest progress has been made of late years.

The general practitioner is afforded the very same opportunities to make a study of bacteriology and other important branches of medicine as the ordinary specialist. He can take up post-graduate work at the standard universities and post-graduate schools with as much ease and profit to himself and his clientele as any one else. I know whereof I speak, and hope to impress these facts upon the minds of my fellow-practitioners of this assemblage.

The pressing demand today, said a distinguished writer and Congressman of the medical profession, is for well-grounded, well-rounded, educated physicians, who can diagnose their cases of tuberculosis, diphtheria, typhoid fever, pneumonia, carcinoma, appendicitis, brain tumor, meningitis, etc., without the assistance of a specialist who may not be available when most needed. Rational medicine, as previously intimated, requires for its successful practice a scientific equipment, such as the microscope (with an oil-immersion lens and other smaller essentials), ophthalmoscope, phonendoscope, laryngoscope, sphygmomanometer, metabolism apparatus, urinary analysis outfit, first class electric wall-plate with all necessary currents, including the sinusoidal, diathermic and galvanic currents. It has not been long since our modern methods of investigation, instruments of precision, and the many refinements of diagnosis were either undiscovered, or the few in use were to be found only in the larger universities. It has gradually become evident, however, that to complete a medical education it is necessary to have access to a working laboratory where the physician can study the conditions which exist in health and learn to appreciate the changes wrought by disease. He should gather lessons from a thorough study of physiologic chemistry and record facts concerning the modifications of perverted functions by the application of suitable remedies. Without these object-lessons, many of the astounding advances of modern medicine could not have been made. By the aid of these, medicine has made greater progress during the past three decades than it had made previously during as many centuries.

"The scientist must of necessity be a revolutionist—all things he must prove for himself." Richter has truly said: "By the aid of these experiments, the science of medicine is compelled to march forward." This is as true today as it was in the time of Harvey, and this fact should encourage us in all fields of medicine, wherever permissible, to make painstaking experiment and draw conscientious conclusions in the recognition and treatment of disease. We should not rest contented with the

XUM

uncertain methods of our forefathers, but, with Lessing, Banting and others we must proclaim, "Not the bare truth, which everybody possesses, or thinks he possesses, but the earnest endeavor to understand the whole truth, and to get at the foundation of it, which make the true worth of a man." Ours is a profession which can ill afford to be satisfied with mere possession of mere facts, but its real power is best shown by its earnest search for truth, at the sacrifice of health, and even life itself, as was the case of our much lamented Walter Reed, who for the sake of science and humanity gave up his life. Ours is a task of blasting in the quarries of the unknown, where are hidden innumerable precious truths awaiting development. Thus may our noble art gain the reach and certitude of sway over disease, which we all yearn for it to possess.

Sir Michael Foster once said: "The phenomena of disease, being phenomena of living beings, present themselves as mixed problems of chemistry, physics and biology, to be grappled with by the general practitioner as they are grappled with by the chemist, the physicist and biologist."

"Diagnosis," says Dr. Eisener, "is the true password in the medical science of today, and this should be realized by many who continue satisfied with the uncertain methods of the past."

When Leube, in 1871, first recommended the stomach-tube for diagnostic purposes, he cleared the way for ready diagnosis of stomach diseases. Bacteriologic diagnosis of certain diseases has become a matter of routine importance with the scientific, up-to-date physician, and to him we shall look for the solution of many important problems at this age in the prevention and recognition of disease.

The number of lives annually saved by the application of bacteriologic methods in the diagnosis of disease cannot be estimated. It has been unjustly stated that the time occupied in making blood examinations with the microscope is out of proportion to the knowledge acquired. This is an unjust charge. To gain information of disease should be our aim, regardless of time and expense, but fortunately with our newer methods and modern technique, a thorough blood examination can be made in less than forty minutes. These are important matters, and should ever be kept in mind by the general practitioner. That most valuable instrument, the ophthalmoscope, should constitute one of the important adjuncts to the equipment of the general practitioner, by which he is enabled to recognize the grosser pathologic changes in the eye, leading to a diagnosis of brain, kidney and nerve lesions, that are often overlooked and maltreated by the so-called *pseudo-oculist or optometrist.*

It is no secret that the charge has been made, that too many patients in this country are often ignorantly and incompetently treated, and our medical schools and system of medical education are held responsible for this unfortunate state of affairs. We must admit that we too often fail to stimulate the "scientific sense;" men are not educated to work systematically, and hence we fall short in many important essentials that go toward rounding up a thorough knowledge of the work in hand.

Many causes might be cited that contribute to this unfortunate state of affairs. A spirit of commercialism seems to have gotten hold of many of our American medical institutions, and as a natural sequence, its influence is felt in the ranks of the profession. That unconquerable thirst for "filthy lucre" has been the indirect cause of more failures in, and has brought more discredit upon, the medical profession of the United States than all other causes combined. In this particular sense the profession has, I am sorry to say, retrograded from the old landmarks. This is, in part, due to the overcrowded condition of the profession, and the multiplicity of second-rated medical colleges, saying nothing of the "diploma-mill universities," the pseudo-science institutions of the country, all of which are sending out their so-called graduates under the "camouflage" of medicine and religion, deceiving the overcredulous public. With this overcrowding of the profession, and the intermingling of the pseudo-sciences, it is but natural that competition, antagonism and commercialism will grow keener each year in the ratio of demand and supply.

I shall now digress a little in order to present a few facts in the way of statistics and comments of a retrospective character, giving some important data worthy the consideration of not only the general practitioner, but of the entire medical profession. It is a well-known fact, recognized by our best authorities and most careful observers, that since the great world war there seems to exist in the pro-

fession a peculiar state of "*unrest*." This state of mental worry and unstableness is more noticeable among the younger portion of the profession, ranging in age from 24 to 40 years. The promiscuous commingling of the nations with the nervous excitement and uncertainty of the final outcome of the war, with its many entanglements and embarrassing sequelae of lost positions of professional employment, may in part be a contributing factor in the more recent state of unrest. This condition of unrest and unstableness of mind is not confined to the medical profession alone, but it is broadcast throughout the world, according to the views of Prof. Wm. Star Myers, of Princeton University, a well-known writer and author. He further states, that out of the 105 million people in the United States, 45 million have only the mental capacity of a 13-year-old youth, while 15 million of our population possess the mental powers of an eight-year-old child, and of the remaining 45 million statistics show that 25 million are of the mediocre, while 5 million are classed as "A" in mentality and the remaining 15 million classed as "B" in mentality. These two latter classes, according to this author, do the mental work of the entire citizenship of the country. He further states that we have in the United States over 60 million morons or imbeciles. In considering these humiliating facts of our mental stamina as a nation, it is no wonder that we have grievances with our neighbors, misunderstandings in business transactions and a general state of unrest. These conditions apply not alone to our beloved America, but to the entire world, and especially to those nations that are only semi-civilized and are still, with their superstitious ideas, bowing down to idols and false gods.

Dr. Robert H. Chase, in his able treatise on the "Ungeared Mind," does not hesitate to proclaim to the world that insanity and mental diseases are on the rapid increase, and that it is only a matter of time when our hospitals for nervous and mental diseases and our asylums for the hopeless insane will be greatly enlarged in capacity and quadrupled in numbers.

This rapid increase in deterioration of the mental faculties and nervous conditions may in part be accounted for by inheritance from our ancestry and our physical conditions from a health standpoint. The morale of our young manhood, and I may add our young womanhood, has of late years deteriorated, causing a lower percentage of stamina, stability and backbone.

Dr. Thomas D. Wood, of Columbia University, in a lecture some months ago, made the statement that out of 32,000,000 school children in the U. S., 75 per cent were physical defects, one per cent mental defects, five per cent victims of tuberculosis, five per cent with defective eyes and hearing, while 25 per cent suffered from diseased tonsils and malnutrition.

According to the Surgeon General's report, over 39 per cent of our soldier boys who enlisted for the great world war were rejected on account of physical disability. In some of the states, from 50 per cent to 75 per cent were rejected on this account. In 1920, over 300,000 babies died before reaching the age of one year; 15,000 of these died before the end of one month. Over 50,000 mothers died in childbirth last year, according to statistics. What a sad commentary for the medical profession to consider *vigorously!*

Dr. F. C. Wood, of the Crocker Cancer Research Laboratory of New York, states that cancer killed 90,000 persons in the United States last year, and that 180,000 will die this year of that disease, and that 90 per cent of all these could have been cured if taken in time. What a travesty on the intelligence of our American citizenship! According to statistics, over 500,000 people die of this disease in the entire world every year. One person dies every six minutes from cancer. This high mortality from cancer is surpassed by only one other disease, namely, The Great White Plague, which takes as its annual toll from the world 1,250,000 persons, or 144 human lives every hour. One and a half millions are incapacitated annually from tuberculosis in our own country. The number of deaths from this disease during the four years of the world war among the civilized nations, including those engaged in the armies of all the different countries, equalled or approximated the total number of soldiers killed in battle. (*Journal A. M. A.*, Oct. 5, 1918).

In China, tuberculosis takes one coolie every 37 seconds, while in Japan it takes one every two minutes, and about the same condition exists in India. These figures vary in different countries, according to the degree of enlightenment and education from a health viewpoint.

You will observe from the foregoing, that

XUM

I am treating my subject from various angles, and while we may congratulate the great science of medicine and its corps of energetic, painstaking laboratory workers on past achievements, yet there is much to do, and it behooves every up-to-date medical man to buckle on the armor of war and face these deadly enemies of the human family which are so rapidly destroying the nations of the world. Let America take the initiatory steps toward teaching the world the principles of Hygiene and Preventive Medicine, following the example of our much lamented Dr. Wm. C. Gorgas, a man of Southern birth, who made the once God-forsaken Panama country, where neither man nor beast could survive but a short period on account of the deadly malaria and other infections, a haven of rest. See what science and money have done for that once *malady-stricken country!* "The successful man is the man who knows human nature as well as he knows his profession."

1315 *Fern Street, Northwest.*

THE INTERACTION OF SPECIFIC AND NONSPECIFIC FACTORS IN ALLERGIC DISEASE.*

By WARREN T. VAUGHAN, M. D., Richmond, Va.

The term asthma was introduced into medical nomenclature to designate all forms of hurried breathing as early as the time of Hippocrates. It was not, however, until the seventeenth century that bronchial asthma came to be clearly differentiated from other forms of hurried breathing, particularly from so-called cardiac, renal and diabetic asthma. Von Helmont in 1655 and Willis in 1684 studied individuals having peculiar attacks of shortness of breath, whose lungs and other organs appeared after death to be healthy. Floyer in 1698 described his own case with unusual clarity. Laennec in 1819, having introduced the stethoscope, first clearly distinguished bronchial asthma from other forms of dyspnoea and attributed the affection to spasm of the recently discovered bronchial muscles.

Many have been the theories of the causation of bronchial asthma. In addition to that of broncho-spasm, which was greatly strengthened when, in 1887, Fraser demonstrated the action of nitrites in relieving the paroxysms, it has been ascribed to spasmodic contraction of the diaphragm, to local irritation from Charcot-Leyden crystals and Curschmann spirals, to a local catarrhal process and indeed to an acute streptococcus infection of the bronchial mucosa described as an internal erysipelas.

As early as the first half of the last century, occasional observers conceived that morbid conditions of the blood, influencing at one time the skin, at another the mucous membranes, afforded the best explanation. Duclos in 1801 spoke of a herpetic tendency of this kind and Clark referred the process to changes in the mucous membrane resembling urticaria in the skin. Trousseau, around 1850, thought the disease essentially a diathetic neurosis. He insisted that eczematous and rheumatic affections, gout, gravel, hemorrhoids, periodic headaches and asthma were varying expressions of one and the same diathesis and that they might replace one another in one and the same individual.

Thus we see that fully seventy-five years ago clinicians recognized the occurrence of an asthmatic tendency or diathesis and that some at least recognized an association between asthma, urticaria, eczema, migraine and hemorrhoids, or itching piles.

The possible relationship between asthma and other diseases, such as upper respiratory infection, nasal polys, enlargement of the thyroid gland, etc., was described well before the close of the last century and the etiologic relationship of various pollens to hay fever was clearly recognized. It was generally considered that the irritation resulting from the deposition of pollen on the nasal mucosa was purely mechanical. Cases were on record of hay fever and asthma caused by contact with animal furs, odors, dust, etc.

The work of Richet, begun in 1898 and well advanced in 1902, formed the groundwork of the developing science of immunology. Many years devoted to the accumulation of experimental data were required before satisfactory working hypotheses of the phenomenon and mechanism of anaphylaxis were developed. The close clinical similarity between bronchial asthma and experimental anaphylaxis, particularly as observed in the guinea pig, was without doubt noted by many, but credit is usually given to Meltzer for having originally suggested, in 1910, that bronchial asthma may in some cases be due to an anaphylactic stenosis

*Read before the fifty-fifth annual meeting of the Medical Society of Virginia. Staunton, October 15, 1924.

of the finer bronchi. This conception threw the doors wide upon a new field of experimental medicine, and since 1910 it has been conclusively demonstrated that bronchial asthma is in a high proportion of cases a clinical expression of protein sensitization. We may realize how completely the conception of bronchial asthma has been altered and in general clarified in the last ten years when we consider that as recently as 1913, Osler defined bronchial asthma as a neurotic affection, characterized by hyperemia and turgescence of the mucosa of the smaller bronchial tubes and a peculiar exudation of mucin, the attack being due to direct irritation of the bronchial mucosa or reflexly by irritation of the nasal mucosa, or again indirectly by reflex influences from stomach, intestines or genital organs.

Clinical hypersensitiveness, as we observe it in bronchial asthma, while having many points in common with experimental anaphylaxis, differs therefrom in certain important particulars, and we have therefore come to distinguish the two by terming the experimental condition "anaphylaxis" and the clinical disease complex as "allergy"—*altered state* or *altered energy*. Allergy is a constitutional state, which follows the Mendelian law of heredity, in which one may inherit a tendency to become sensitized toward foreign proteins. We cannot say that asthma is inherited nor can we even state that sensitization to any particular protein is acquired by inheritance. It is only the *tendency toward sensitization* which appears to be inheritable, and we find that sensitization to one foreign protein in the parent may be followed by sensitization to quite another protein or to several proteins in the offspring. Indeed, the clinical manifestations may take quite different forms in different members of family groups. Thus, in one exemplary family we find one child with bronchial asthma and eczema, another with seborrhoeic dermatitis or dandruff, one with history of urticaria, and one who is apparently non-allergic. The father has shown no allergic manifestations other than seborrhoea. The mother suffered from infantile eczema and in adolescence had recurrent urticaria. The paternal grandmother had been subject to hay fever, while the maternal grandmother for years had had attacks of sick headaches. The paternal grandfather had been a victim of pruritus ani, perianal eczema or so-called itching piles. Here we find the entire gamut of allergic manifestations in a single family. Indeed, few families exist today who cannot display one or more examples of allergy.

We must indeed respect the clinical judgment of Trousseau, who, seventy-five years ago, recognized an asthmatic diathesis and called attention to its association with urticaria, eczema, hay fever, periodic headache and hemorrhoids.

The more we learn from our study of these various clinical conditions as allergic phenomena, the greater has been the number of cases that we have been able to relieve or completely cure by specific therapy; but at the same time the more closely have we been forced to a conclusion that allergy and allergic disease cannot be explained in its entirety, purely on a basis of protein sensitization. We find asthmatic or eczematous individuals clearly senstitive by skin tests to several different proteins, some of which produce no symptoms after exposure. If an individual is sensitive to two proteins apparently in equal degree, why does but one cause symptoms? How are we to account for Rackemann's observation that ten per cent of normal healthy children who have had no evidence of allergy are sensitive to one or more foreign proteins? It is true that thirteen per cent of these did develop allergic manifestations after varying intervals. But why had they not developed them at the same time that they developed the capability of giving positive skin reactions, especially when they were sometimes coming in daily contact with the offending protein?

Take a group of individuals all sensitive among others, to the protein of wheat, all relieved by the elimination of wheat from the diet and all, or practically all, having experienced recurrence of symptoms when again eating wheat, thereby proving the etiologic position of this protein. One has bronchial asthma, another recurrent urticaria, several have eczema, one involving the back of the neck, another the left hand and fingers, another the perianal region, and still another with a generalized eczema involving practically the entire body. Why the *difference in the localization* within the body when all are sensitive to the *same protein* and apparently in *like degree* and when all are coming into regular *daily contact* therewith?

In the case of eczema we may explain this

XUM

as due to the added action of a *nonspecific* factor. Thus, mechanical irritation, the rubbing of the collar on the neck, moisture and friction in the perianal region, or mechanical trauma of the hand. Likewise we may think of bronchial asthma as occurring because of some inherent diminished resistance of the mucosa of the respiratory tract, from preexisting nonspecific respiratory infection, etc., but that this is not the entire explanation is indicated by observation of the same varieties of localization in otherwise healthy infants, none of whom have been subject to precedent disease.

Again with an individual sensitive to some protein with which he comes in *daily* contact, why is it that at times he remains symptom-free, the disease manifesting itself only in attacks?

Two answers present themselves to explain in part the various questions raised. First, in all probability *nonspecific factors do act*, often, coincidently with specific agents, both in the precipitation of allergic symptoms and at the same time in determining the localization thereof. Second, even this conception of an interaction between specific and nonspecific causative factors will not answer all of the questions raised, because *our conception of the pathogenesis of allergy is still incomplete.* We now discuss it purely in terms of protein sensitization. The true conception will probably not be arrived at until we have progressed to where we can discuss it in terms of intracellular activity, in terms of the chemistry or physical chemistry of the individual cells located in various regions of the body. Thus localized urticaria from heat or light, or asthma from exposure to cold or wind must ultimately be explained in terms of cellular activity.

But, take the sensitive child who has never had symptoms from exposure to a protein to which he is sensitive. Take the individual sensitive to a protein with which he comes in daily, almost constant contact, but who manifests symptoms therefrom only at intervals.

I look upon these individuals during the intervals of freedom as being in what I have termed a "*balanced allergic state.*" The patient is sensitive, but by some mechanism still obscure, maintains a normal balance. It is useless in the present state of our knowledge to attempt to localize the mechanism by which this is accomplished. We may speak of the detoxicating action of the liver, or of the activities of the endocrine system, but so far the part which they play is as yet purely hypothetical. At any rate, the individual receives the allergenic protein within the system and disposes of it somehow without developing any of the various allergic manifestations. But allow some additional factor to overthrow this governing mechanism and symptoms will ensue. The additional factor may be *either specific* or *nonspecific.* It may be an overdose of the same allergen. Thus a child in my experience, sensitive to the protein of chocolate, can ingest small amounts with impunity while large amounts overthrow the balance and precipitate asthma. A patient with eczema of the hands, sensitive to wheat protein, noted that her symptoms cleared up on a post-war visit to Germany where the amount of available wheat flour was distinctly limited.

An individual may be sensitive to several proteins, as, for example, foods, and satisfactorily metabolize one of them, but develop symptoms when the mechanism becomes overwhelmed by the simultaneous ingestion of two or more.

A woman with autumnal hay fever due to ragweed, and without symptoms of other allergic disease, aside from recurrent urticaria, experienced but twenty-five per cent improvement in her hay fever following pollen desensitization. She was then found sensitive to several foods including wheat and egg and upon eliminating these from the diet, not only was her urticaria relieved, but, which is intensely interesting, her hay fever disappeared completely.

These are examples of allergic unbalance following the action of specific etiologic agents.

Again, the protective mechanism may become deranged through *nonspecific* causes. In eczema particularly we observe outbreaks associated with unusual constipation. The effect of teething on asthma or eczema is well known. Intercurrent infections and focal infections may act apparently nonspecifically. It is still a moot question as to whether bacterial protein may act at the same time as a *specific* allergen.

Intestinal upsets of various sorts, prolonged exhaustion, emotional upheaval, may become nonspecific provocative factors. A boy of thirteen with perennial asthma, relieved for a period sufficiently long to be conclusive by

the removal of the offending food proteins and removal from association with feathers, had an altercation with his friends. One boy started throwing stones at him. The patient had to protect himself behind a telephone post. Within ten minutes he had a violent attack of true bronchial asthma. He had eaten nothing and his enviroment had not changed. A child five years old, sensitive to the proteins of wheat, strawberry and chocolate, who has been symptom-free for two years on dietary treatment, fell by accident into a swimming pool. He was rescued at once, scarcely having had time to sink beneath the surface of the water. An attack of asthma followed shortly. This may have been due to fright or to sudden cold, but whatever the cause, it was nonspecific in nature.

Many an individual having discovered those articles to which he is sensitive, can remain symptom-free until he develops some intercurrent infection, such as acute coryza, which appears to overthrow the allergic balance.

The effect of mechanical or chemical irritation is experimentally shown in the work of Auer. Xylol applied to the ears of *non-sensitized* rabbits produced no great degree of inflammation. If, on the other hand, xylol was applied to *sensitized* animals which were then given otherwise ineffective doses of antigen, local necrosis occurred. He concluded that the inflammatory action of xylol caused accumulation of effective amounts of antigen in the locality affected. The practical application of this will be seen especially in eczema.

Non-allergic pathologic conditions in the body may play a part. Nasal polyps have been recognized as etiologic agents for years. Hernia has been mentioned. Abdominal allergy is more likely to occur in individuals in whom there is some other pathology in the intestinal tract. Disease of the endocrine system plays a part, the extent of which we do not yet know. Thus the case has been reported of a woman who developed bronchial asthma shortly after the production of an artificial menopause. She was treated over a period of practically two years with the elimination of those proteins to which she had been found sensitive, without benefit whatsoever. Three days after the exhibition of ovarian and mammary extract it is reported that her asthma ceased. I have the record of a middle-aged woman, sensitive to several food and epidermal proteins, who did not respond to removal of the allergens, to autogenous vaccine, to peptone treatment, or to the administration of calcium chlorid intravenously, but who promptly recovered following the administration of thyroid and parathyroid extracts, the former in relatively large doses. It is of interest to note that her attacks came usually with the catamenia.

And so we see that while the simple case of allergy, no matter what the form in which it manifests itself, can often be readily relieved by the process of performing sensitization tests and removing contact with the offending proteins, best results, both as far as *complete relief* is concerned and as far as the not infrequent *obscure case* is concerned, depend upon a most thorough examination of the patient. In the examination, the history is of utmost importance. Family history often gives corroborative evidence of allergic disease. Asthma in childhood not infrequently masquerades under the term of croup or bronchitis, or even of long continued sieges of whooping cough. Eczema has many names. Urticaria, hives, nettle rash, prickly heat, ringworm and poison ivy are often synonymous. After careful questioning has established the occurrence, past or present, of a true allergic condition, detailed questioning will often give valuable information as to the probable etiologic factor or factors. The patient's emotional environment is often of great importance.

The physical examination must be most comprehensive. Organic pathology in practically any part of the body might hypothetically be a nonspecific etiologic factor in the causation of true allergic attacks. The examination will include particularly thorough examination of the respiratory tract, study for focal infection, investigation of the gastro-intestinal tract from the lips to the anus, both for anatomic pathology and for functional digestive disturbance, study for evidence of endocrine derangements, and, where practicable, search for pelvic disorder. These I consider the most important phases of the general examination when applied to allergic disease, but occasionally some pertinent factor may be found in the urologic system, or elsewhere, and one can scarcely justifiably stop short of a *thorough* physical examination together with the customary routine laboratory studies. This, of course, applies particularly to those cases which have not responded to the simpler specific measures.

XUM

of therapy, and I would again emphasize that the latter is usually the most important procedure and the most promising of results. As a rule little success may be anticipated from the removal of the nonspecific factors unless the specific factors, the factors of first importance, have been previously eliminated.

This conception of allergic disease as due customarily to some form of protein sensitization, but often brought out by nonspecific causes, serves to clarify individual failures when treating the disease purely as a sensitization. At the same time it explains therapeutic successes following the application of purely nonspecific measures. The best therapy consists in removing, in so far as practicable, both groups of causes. Sometimes only one or the other type of cause can be discovered or satisfactorily removed. If this partial adjustment is sufficient to restore allergic equilibrium, to re-establish what I have called a "balanced allergic state," symptoms will disappear.

When occasionally both methods of study and treatment fail, we must feel that still other, as yet unknown, factors may play a part. And their seat will ultimately be found in the biochemical reactions of the individual cell.

Medical Arts Building.

FURTHER OBSERVATIONS ON ETHYLENE-OXYGEN ANESTHESIA.
A Report of 450 Cases.*

By J. S. HORSLEY, Jr., M. D., Richmond, Va.
From the Surgical Department of St. Elizabeth's Hospital.

Ethylene is an unsaturated hydrocarbon (C_2H_4), is found in nature as a constituent of coal gas, and forms about 4 per cent of ordinary illuminating gas. It is compressed to a liquid in steel cylinders, and is available for use in the same manner as nitrous oxide. At ordinary temperatures and pressures, pure ethylene is a colorless gas having a peculiar sweetish odor, like sorghum molasses. It may be made by extracting a molecule of water from alcohol as by heating a mixture of phosphoric acid and ethyl alcohol. Ethylene has been used commercially in a more or less pure form for several years for heating, lighting, welding, and ripening of green lemons and oranges. During the Great War, it was used in the preparation of mustard gas. Its anesthetic properties were first fully studied by Luckhardt and Carter. It was first used clinically by Dean Lewis and his associates at the Presbyterian Hospital, Chicago.

On February 12, 1924, the results of the first 116 consecutive ethylene-oxygen anesthesias given at St. Elizabeth's Hospital, were reported before the Richmond Academy of Medicine. In this preliminary report the previously published clinical observations of Luckhardt and Lewis were confirmed. The following points concerning ethylene-oxygen anesthesia were striking:

1. Beneficial effect of pre-anesthetic use of morphin and seemingly unnecessary use of atropin.
2. Ease and rapidity of induction.
3. More complete relaxation than with nitrous-oxide and incomplete relaxation in 66 per cent of upper abdominal operations.
4. Absence of cyanosis and presence of pink color.
5 Slowing of pulse rate and relative decrease in circulatory depression over that of the other general anesthetics.
6. Absence of respiratory irritation and post-operative complications.
7. Absence of sweating, and presence of dry, warm skin.
8. Slight increase in oozing.
9. Apparent rapidity of recovery and relative lack of sensation of exhaustion.
10. Low incidence of post-operative nausea and vomiting.
11. Low incidence of post-operative "gas."
12. Absence of any latent after-effects, and increased safety over other general anesthetics.
13. Average of 82 per cent and limits of 75 per cent to 90 per cent of ethylene, and average of 18 per cent and limits of 25 per cent to 10 per cent of oxygen, concentration to secure and maintain surgical anesthesia.
14. Explosibility of ethylene comparable to that of ether vapor; caution in use of open flame, electric motors and cautery in its presence.
15. Sorghum-like odor objectionable to only 3 patients—less objectionable than odor of ether.
16. Patients showed preference for it over the other general anesthetics.
17. One failure for an anesthetic state, and failure to produce satisfactory relaxation for 13 per cent of the 116 operations. In these cases ether was added in small quantities with satisfactory results.

*Read at the fifty-fifth annual meeting of the Medical Society of Virginia, in Staunton, October 14-17, 1924.

Since this first report was made there have been 334 cases of ethylene-oxygen anesthesia, making a total of 450 cases since its first introduction at St. Elizabeth's Hospital, where it is used as the routine general anesthetic. On the whole, the results obtained in this larger group of anesthesias coincide with those already given in the preliminary report. There are, however, a few important points which have been brought out in the last group.

Types of Operations.

Ethylene-oxygen anesthesia may be used in practically every type of operation. These 450 cases include nearly all types of operations done *on* the head, neck, chest, extremities, perineum, and *in* the mouth, chest, abdomen and pelvis. There were three Caesarean sections, thirteen cystoscopies, and six tonsillectomies and adenoidectomies in this series, in all of which satisfactory results were obtained by the use of ethylene-oxygen alone. By increasing the pressure of the gases, using special nose or mouth inhalers and having the co-operation of the operator, a satisfactory ethylene-oxygen anesthesia may generally be maintained for nose, mouth and throat operations.

In operations of the upper abdomen the addition of small amounts of ether is necessary in about fifty per cent of these cases to produce a satisfactory relaxation. In operations on all other regions ethylene-oxygen alone will usually give ample relaxation.

Purity of Ethylene Gas.

During the last six months the demand for ethylene has been so great over the country that apparently a good many of the manufacturers of this product temporarily sacrificed quality for quantity. This accounted for the moderate increase in the post-operative nausea and vomiting in the last 334 cases as compared with the first 116. Complaints of this fact have been made from the numerous clinics using ethylene extensively and the manufacturers are now producing a purer and more uniform product.

Potential Dangers

The chief potential danger and disadvantage of this anesthetic agent is its inflammability and explosibility. Up to October, 1924, there were reported five instances of ethylene explosions.

1. Heaney, of Chicago, reports an explosion with ethylene in the delivery room where apparently every precaution had been taken known at the time, although it was evident from the facts that the explosion was due to a static spark. When a pain had been finished the anesthetist hooked the face mask over the mixing chamber of the machine. As the mask touched the mixing chamber there was a loud report and a flame spurted from the chamber which burned only moderately and was extinguished by blowing even before the ethylene had been burned off. The glass cover of the chamber was blown to fragments and bits of this caused superficial pin-point bleeding on the anesthetist's arm. He further reports that he had had the same accident happen about a year previously under similar circumstances while administering nitrous oxide, probably from fumes of ether previously used in the same machine.

2. At the Union Memorial Hospital, Baltimore, in March, 1924, the only fatal ethylene explosion occurred. The patient was a male, 65 years old, with advanced diabetes and arteriosclerosis. He had a carbuncle on the back of the neck, and considering his poor general condition ethylene-oxygen was the anesthesia of choice. For forty minutes ethylene-oxygen was administered with the patient placed upon his face, during which time the carbuncle was dissected. Wishing to seal the base of the wound with a cautery the operating room was amply ventilated, ethylene was stopped, the gas machine flushed out under pressure with pure nitrous oxide, and the patient allowed to revive during this time to the state of analgesia. Nitrous oxide and oxygen were then administered and the cauterization begun. This was continued for a period of approximately five minutes, when there was a violent explosion in the face piece, from which the patient died one and a half hours later, apparently from hemorrhage due to rupture of a pulmonary blood vessel. It was decided later that the most probable explanation of this explosion was that the patient had swallowed some ethylene gas during its administration, and that he eructated suddenly allowing the swallowed ethylene to escape just before the explosion.

3. Lundy, of the Mayo Clinic, reports an explosion of ethylene which occurred when an electric cautery was used in the axilla and the gas in the vicinity ignited. There had been a leak from the mask. There was a slight burn of the patient's face.

XUM

4. Luckhardt, of Chicago, in January reported that within the last six months a static spark had to his knowledge twice ignited an ethylene-oxygen mixture with explosive violence, tearing wide open the rubber tube leading the ethylene-oxygen mixture from the mixing chamber to the mask. Neither accident had any serious consequences to the patient, operator or anesthetist. In one case the explosion happened just at the close of a long period of anesthesia (I believe this to be the same case as reported above by Heaney), and in the other just as the mask was about to be applied to the patient's face.

5. In the course of a short perineal operation Davis, of Milwaukee, reports that the cautery was used to excise a small internal hemorrhoid. The cautery tip was handed back to the nurse after the current had been turned off, but when the tip reached the level of the patient there was a flash which singed an assistant's eyebrows and a flame, like that produced by a trail of powder, followed the level of the patient's body to the inhaler where there was a big flash followed by the explosion of the celluloid mask. The patient's face and right shoulder received painful burns from the burning of the mask. The ethylene coming through the inhaler tube continued to burn until the apparatus was turned off.

As Luckhardt and others have pointed out, ethylene with oxygen gas or air in the proper concentration forms a highly explosive mixture and therefore precludes its use in the presence of a free flame, thermocautery, or sources of electrical discharges. This constitutes one of the limitations of ether anesthesia also, and it has been proved that an ethylene-oxygen mixture is no more explosive than an ether-oxygen mixture. Ether has the further disadvantage that accompanying its explosion liquid fire is usually also present. This does not occur with ethylene. Contrary to common belief, a nitrous oxide-oxygen mixture may be ignited with an ensuing explosion by a thermocautery.

It will be noted from the instances of ethylene-oxygen explosions cited above that their causes can be classified under two heads: 1, *Carelessness* and disregard of the widely known common sense facts concerning any explosive gas. The quality of an ethylene gas sample that would not explode in the presence of oxygen or air when ignited with a cautery, spark or open flame would indeed be a poor grade of ethylene. 2, *Sparks from static electricity.* In order to overcome the first cause of explosions the same customary precautions should be taken with ethylene as are taken with ether, making allowance also for the fact that ethylene gas rises and ether vapor sinks in air. To prevent the possibility of sparks of static electricity all connections from the mouthpiece (inhaler) to the machine and tanks should be provided with means for carrying away the static current, and the machine should be grounded to water or steam pipes at all times. The static electric current is formed by the rapid passage of the gases under pressure through non-electrical conductive material, such as rubber tubing, bags, etc. Some of the new gas machines are now being constructed with this point in view. The older ones that do not have all parts connected by some electrical conductive material may easily be properly converted by wiring with non-insulated copper wire. This is a very simple procedure and quite worth while in view of the accidents already reported.

This static electricity danger is not limited to the use of ethylene alone, but also occurs with ether-oxygen, nitrous oxide-oxygen, and nitrous oxide-oxygen-ether mixtures. Luckhardt reports that ether-oxygen mixtures administered through insulated rubber tubing have been known to explode with serious violence as the result of a jump spark.

The nitrous oxide-oxygen explosion reported above by Heaney and two explosions reported in the *Journal of the American Medical Association*, indicate that both ether and nitrous oxide have been the cause of as severe explosions and injuries as any of the ethylene accidents.

In the *Journal of the American Medical Association*, January 26, 1924, a medico-legal case is reported where an explosion occurred during the administration of nitrous oxide-oxygen anesthesia. After the patient's carbuncle was removed the surgeon started to use a high-frequency electrical converter to cauterize the wound. As soon as the electrode of this machine was applied to the patient there was an explosion in the gas mask and rubber tubes attached to the mask, a hole being blown in the tube four or five inches from the face-piece. The explosion caused the patient's face to be

burned and an injury to the eyes. She recovered a judgment for $6,000.00.

In a letter from London in the *Journal of the American Medical Association*, May 31, 1924, a remarkable accident is reported as occurring in the operating room of the Cheltenham General Hospital, in which the house surgeon and the patient received severe burns. The anesthetic had been successfully administered when a spark from some electrical apparatus exploded a bottle of ether with force. The ether burst into flames which set fire to the house surgeon's trousers, severely burning his legs and hands. The patient was severely burned about the head. Other physicians escaped injury, but one of the nurses had her hair badly singed. The operating theater was set on fire, but the flames were put out by an extinguisher.

Combinations of Various Anesthetic Agents.

It is usually desirable to give a preliminary hypnotic. Morphin sulphate (grains 1/8 to 1/4) is very satisfactory if ethylene is to be used alone and atropin sulphate (grains 1/150 to 1/120) is added if it is to be combined with ether. Many combinations of anesthetics may be used. Nitrous oxide may be used for induction if the patient objects to the odor of ethylene. Ether may be added for more complete relaxation. Local anesthesia may also add to the relaxation if ether is contraindicated. Lundy claims that there is more synergism between ethylene and ether than between nitrous oxide and ether. Carbon dioxide may be used to very great advantage in all anesthesias, and especially with ethylene. Occasionally between the second and fourth minutes, and possibly later in the course of ethylene anesthesia, respiration may be temporarily inhibited. The administration of a small percentage (about five per cent) of carbon dioxide gas will sufficiently stimulate respiration and instead of the patient becoming cyanotic and rigid, the pink color and relaxation may be maintained by the added deeper breathing and consequently the more thorough saturation of the patient with the anesthetic agents. Carbon dioxide is the natural respiratory stimulant and in small amounts (around 5 per cent) has no toxic or untoward properties. It has been extensively advocated and used by Henderson, of Yale, in resuscitating patients for carbon monoxide poisoning. In combination with oxygen it can be used with very excellent results in resuscitating babies at birth.

By the method of rebreathing carbon dioxide has been used rather generally for a long time. Here the patient furnishes the carbon dioxide with each expiration and usually this is enough for the average ether anesthesia. The supply, however, is often wanting and unavailable at the time it is most needed, that is, when the patient is breathing poorly or exhibiting the breath-holding reflex. This gas, like oxygen, nitrous oxide and ethylene, may be obtained in tanks under pressure, and by a suitable attachment may be used whenever and in whatever quantities desired during the anesthesia. By this means a more even induction and conduction of the anesthesia as well as better relaxation are secured. Rebreathing, if not forced or too prolonged, has the advantage of furnishing the patient with his own carbon dioxide supply, keeping the gaseous exchange at a temperature more nearly that of the body and lessening the free escape of the anesthetic agents.

Oozing.

It has been asserted that there is more oozing while ethylene is being given than when other anesthetics are used. In a few cases there seemed to be a slight increase in oozing while ethylene was being administered. In such instances, changing or combining the anesthetic mixture has made no noticeable effect on the bleeding. Granted that oozing is increased with ethylene anesthesia, it is much better to have this added bleeding occur during operation where it can be properly controlled than to have it occur afterwards, so it insures complete hemostasis.

In studying this occasional apparent increase in bleeding, the coagulation time of twenty consecutive ethylene anesthesia cases was made on the day previous to operation, at the close of the operation when the concentration of ethylene in the body was at its maximum, and seventy-two hours following operation. As may be seen from the accompanying table in no instance was the coagulation time prolonged either when the patient was fully saturated with ethylene or at seventy-two hours after operation. This definitely shows that the alleged increased oozing is not due to any change in the coagulation time of the blood. It seems most probable that it is due to a vasomotor dilatation. This factor may also account for

XUM

CASE	Average $C_2H_4O_2$	Age	Duration of anesthetic Minutes	Coag. time 24 hours before		Coag. time at close of anesthetic		Coag. time 72 hours after operation	
				Min.	Sec.	Min.	Sec.	Min.	Sec.
1. Mrs. T. I. W.	75—25	59	25	6		3	42	5	58
2. Mr. C. M.	80—20 (ether)	30	85	4		3	57	4	2
3. Mr. T. M.	75—25	23	40	4	25	4	28	4	
4. Miss W. H. D.	75—25	38	45	4		4	3	5	15
5. Mrs. O. C. B.	75—25	53	90	5		4	59	4	
6. Mr. E. E. M.	80—20	30	30	6		5	33	6	
7. Mr. A. C. C.	70—30	18	35	4	22	4	18	4	18
8. Mr. O. M. W.	80—20	35	30	4		3	45	4	
9. Miss B. M.	50—50 (ether)	38	140	4		3	12	4	2
10. Mrs. F. M.	75—25	51	140	2	45	2	38	3	
11. Miss E. S. T.	75—25	22	25	4		3	58	4	
12. Mr. H. M. H.	75—25	19	145	7		3	23	3	15
13. Miss H. S. N.	75—25	42	95	4		3	59	4	
14. Miss B. M.	50—50	39	70	3	24	3	15	3	
15. Mrs. E. L. F.	60—40	46	85	4	23	3	31	4	25
16. Mr. A. K. M.	80—20	31	90	4		3	4	4	
17. Mrs. R. H. R.	70—30	64	60	4		1	45	3	58
18. Mrs. G. K.	80—20	31	90	3	25	3	10	3	32
19. Mrs. T. A. K.	80—20	54	35	4		3	42	3 (24 hours)	58
20. Mrs. G. P. D.	75—25	32	40	3	41	3	27	3 (24 hours)	34

the usual pink color of the head, neck and upper trunk during ethylene-oxygen anesthesia.

Poor Operative Risks.

Ethylene has its greatest value in bad operative risks if a general anesthetic is indicated; the poorer the risk the greater the indications for ethylene. In the complete series of 450 cases there have been six patients with diabetes, eight with active pulmonary tuberculosis, a good many cases of varying degrees of well-marked renal, cardiac, and non-tuberculous pulmonary disease. In none of these cases has there been an exacerbation of the already existing complicating conditions, which could in any way be attributable to the anesthetic. The outcome with a similar group of patients following the use of nitrous oxide or ether or the two combined has given considerable trouble and at times added heavily to the production of further complications, sometimes resulting in death.

Summary

1. Further observations on 334 cases of ethylene-oxygen anesthesia confirm in large part the observations of the preliminary report of 116 cases.

2. The gas manufacturers are now producing a purer and more uniform grade of ethylene than their products of the last six months, and consequently the clinical results are better and more uniform.

3. Ethylene gas is explosive, though no more so than ether vapor. To prevent accidents:

(a) Practically the same common-sense precautions should be observed as have long been known for ether. Neither agent should be used in the presence of an open flame, or near a thermocautery or sources of electrical discharges.

(b) The jump spark is a source of potential danger in the use of all general anesthetics as well as ethylene and can be prevented by having all portions (including the inhaler) of the anesthetic apparatus connected by some electrical conductor and the machine then grounded to a water or steam pipe. This arrangement assures the carrying off of any static electricity which may be created by the passage of the gases.

4. Ethylene may well be used in combination with nitrous oxide or ether, or with both. Ethylene and ether blend very nicely.

5. The use of an extra supply of carbon dioxide gas as well as rebreathing are distinct advantages in the production of a smooth induction and anesthetic course and more complete relaxation.

6. Studies on twenty patients before, during, and after ethylene anesthesia show that the occasional apparent increased oozing is not due to any change in the coagulation time of

the blood, but probably to a transient vasomotor dilatation.

7. Ethylene has its distinct advantages in the poor operative risks—the poorer the risk the greater the indications for ethylene.

Conclusions.

Ethylene-oxygen anesthesia is the best routine general anesthetic yet known. It produces a sleep more nearly normal than does any other general anesthetic, and has its most distinct advantage in the poor operative risks. Carbon dioxide gas may well be used in anesthesias to produce a more even course and more complete relaxation. Ethylene combines well with other anesthetics, a fact which is at times very helpful.

Bibliography.

Davis, C. H., Explosibility of Ethylene, *J. A. M. A.*, May 17, 1924, p. 1607.

Foreign Letters, *J. A. M. A.*, May 31, 1924, p. 1794.

Heaney, N. S., Ethylene-Oxygen Anesthesia in Obstetrics and Gynecology, *S. G. & O.*, May, 1924, pp. 692-694.

Henderson, Y., Resuscitation from Carbon Monoxide Asphyxia, from Ether or Alcohol Intoxication, and from Respiratory Failure Due to Other Causes. *J. A. M. A.*, Sept. 6, 1924, pp. 758-764.

Horsley, J. S., Jr., Ethylene-Oxygen Anesthesia, *Va. Med. Monthly*, 50; 822, March, 1924.

Luckhardt, A. B., Potential Dangers Attendant on Ethylene-Oxygen Anesthesia, *J. A. M. A.*, May 17, 1924, pp. 1603-1604.

Luckhardt, A. B., and Lewis, Dean, Clinical Experiences with Ethylene-Oxygen Anesthesia, *J. A. M. A.*, 81:1851, Dec. 1, 1923.

Lundy, J. S., The Comparative Value of Ethylene as an Anesthetic. *J. A. M. A.*, Aug. 2, 1924, pp. 350-354.

J. A. M. A., Medico-Legal Department, Jan. 26, 1924, pp. 329-330.

Personal communication from Union Memorial Hospital, Baltimore, Md., March, 1924.

URINARY LITHIASIS.

By NAT H. COPENHAVER, M. A., M. D., M. S.,
Bristol, Tenn.

The progress made in the accurate diagnosis of urinary calculi during the past twenty-five years is very gratifying. The extraordinary accuracy has been brought about chiefly by the X-ray, combined with cystoscopy. But in spite of the great stride made, many pitfalls still persist, both in diagnosis and treatment.

Like many other diseases of unknown etiology that play an important role in both medicine and surgery, the cause of stone formation is still one of theory. Time will not permit a discussion of the many theories advanced. Needless to say, they are numerous. Hippocrates was the first to venture an explanation of the disease.

Urinary calculi most probably originate in the kidney, with the exception of those that develop from foreign bodies in the bladder. The theory advanced by Hunner that stones originate in the ureter due to stasis above a stricture and float back into the pelvis of the kidney is not generally accepted. Slowing of the urinary drainage may be a factor, but can hardly be accepted as a cause. Mechanical obstruction from pelvic tumors and pregnancy would predispose to stone formation, but it is a well known fact that stones are much more common in men than women. Likewise the same objection might be offered for the infection theory, as infection of the genito-urinary tract is more prevalent in women.

Rosenow has during the past few years developed the doctrine of localization and specific activity of bacteria. Infection as a cause of stone formation has recently been given very substantial aid by a brilliant piece of work of Rosenow and Meissner in which devitalized teeth of normal healthy dogs were infected with pus taken from stone producing patients. The teeth were infected with streptococci from the urine, infected teeth, and tonsils of nine patients with typical nephrolithiasis. By this method calculi or lesions of the medulla were produced in 87 per cent of the dogs.

Another theory which shows scientific progress is the physico-chemical or colloid theory. It is a fact that salts are dissolved in the urine in a far higher degree of concentration, that is, far above the saturation point of pure water. The cause of this as explained by physiological chemists is due to the presence of colloids in the urine, and that they exercise a protective influence in keeping the urinary solids in solution. There is a delicate balance existing between the protective action of the colloids and the solubility of the urinary solids. With the removal of the protective colloids, the urine will become subject to the laws obtained in other aqueous solutions and precipitation of the supra-saturated salts will take place. The colloid theory explains the physico-chemical basis of stone formation, but we are still ignorant of the cause or causes that produce the disturbance in the colloid equilibrium. What this disturbing factor is remains a problem for further research.

Diagnosis.

Urinary calculi are found in men more frequently than women. In Barney's series of

XUM

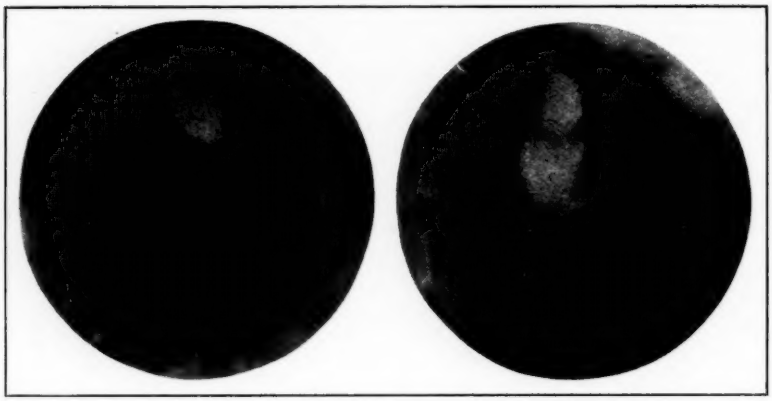


Fig. 1. (a) Large shadow, left renal area; twenty year history.
(b) Renal stone (Pyelogram Fig. 1).

139 cases there were 108 males and 31 females. They occur at any age but most frequently in the third and fourth decade. However, they are commonly found in childhood, a fact often lost sight of in general diagnosis. The average occurrence in children in three large series reported and recently reviewed by Thomas, is 43 per cent. The average age of the children was seven and eight-tenths years. The youngest was only ten months of age.

The one outstanding symptom of stone is pain in the region of the stone. It is interesting to note that Barney, in 139 cases taken from records of the Mass. General Hospital, found that in only sixty cases, or 45 per cent, was there any tenderness in or in the region of the stone bearing kidney at the time of the examination. Pain in the region of the kidney is perhaps the most common result of renal stone, but it is not uncommon to have other pathological conditions such as tuberculosis of the kidney, diseased gall-bladder, mesenteric thrombosis, appendicitis and ovarian cyst, with a twisted pedicle, closely simulate renal or ureteral colic. It is also worth while remembering that a stone in one kidney may produce pain in the other. As a rule, the smaller the stone the more severe and frequent will be the symptoms. Renal colic is a result of the passing of a stone through the ureter, or to obstruction at the uretero-pelvic junction with over-distention of the renal pelvis.

Pus is the most frequent pathological element found in the urinary sediment. Blood is less commonly found and is more frequent with ureteral stone or following an attack of colic. A negative urine does not exclude stones. Barney found the urine persistently negative in 8.6 per cent of his cases. Cabot, in 150 cases, reported a persistent negative urine

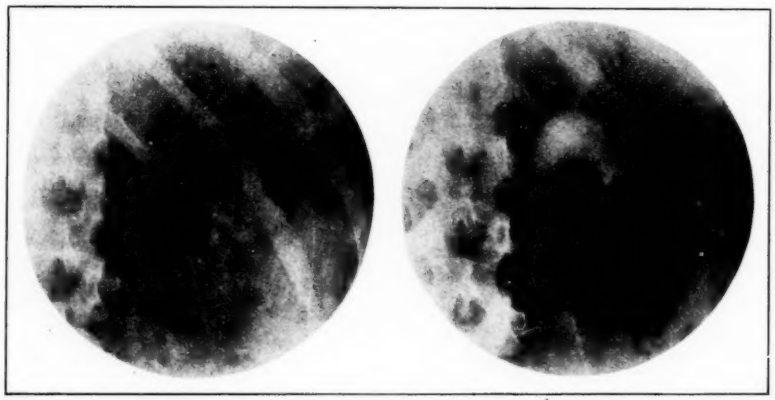


Fig. 2. (a) Shadow, left renal area.
(b) Renal stone (Pyelogram Fig. 2).

in 14 per cent, and Braasch, in 294 cases of ureteral stone, found the urine negative in 12 per cent.

If the stone has been present for some time with resultant infection, attacks of pyelitis or pyelonephritis with severe pain in the back, chills, sweats and fever of the intermittent type may result. At this stage a large quantity of pus is found in the urinary sediment.

A careful, complete history and physical examination should be made, but a definite diagnosis should never be attempted, or an operation advised, without an X-ray and cystoscopic examination. The valuable aid to be gained by roentgenographic study is so generally recognized that few patients are diagnosed without such an examination. There are, however, certain limitations. Perhaps the greater error made in roentgenographic diagnosis will result from incorrect interpretation of the shadow, than from failure to show it. Braasch claims that an accurate diagnosis of stone in the ureter cannot be made from roentgenographic data alone in more than 60 per cent of cases. Interpretation of extra-renal and ureteral shadows caused by gall-stones, phleboliths, calcified glands, etc., as stones, is perhaps the most frequent error. Only by pyelography, the use of metal ureteral catheters and the making of ureterograms can extra-urinary shadows be eliminated. Diagnosis of the presence of urinary calculi is insufficient. One must determine the number and position of the stones; the presence or absence of infection. The degree of dilatation of the renal pelvis and calyces; the presence or absence of the opposite kidney; and lastly the functional capacity of each kidney.

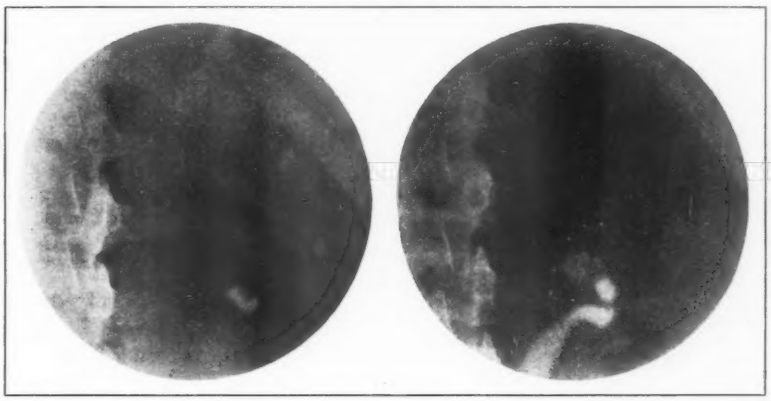


Fig. 3. (a) Multiple shadows, left kidney area.
(b) Renal stones. One impacted in ureter, causing complete obstruction (Ureterogram Fig. 3).

Treatment.

The treatment to be employed in urinary calculi depends upon several factors: 1, The size and location of the stone; 2, the duration of symptoms; 3, the amount of infection and the damage done to the kidney tissue.

As is well known, a large per cent of stones pass spontaneously. If the patient gives a short history and the stone is small it is safe and conservative to wait. Large stones, multiple stones and impacted stones require surgical intervention.

The operation of choice for kidney stones is pelviolithotomy. Nephrolithotomy has its advocates and in certain cases is definitely indicated. Often a combination of both is beneficial. By inserting a finger into the pelvis small fixed stones may be localized. Rather than run the risk of crushing such stones and leaving a small particle to act as a focus for recurrence, personal experience teaches that it is best to make a small incision in the cortex, using the finger in the pelvis as a guide. By this method the stone is removed under direct vision with less damage to the kidney than by repeatedly probing blindly with forceps. In all cases of impacted stones in the ureter of a size less than 2 cm. in diameter, an attempt to remove them by manipulation should first be made. Crowell, who devised and perfected the manipulation method, claims removal of 80 per cent of ureteral stones.

The recurrence of stones must be combated

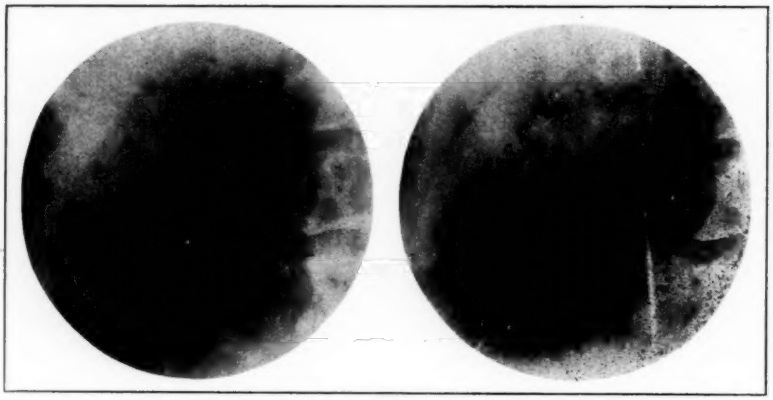


Fig. 4. (a) Shadows, kidney and gall-bladder area. Posterior-anterior view.
(b) Gall-stones (Lead catheter, Fig 4). Posterior-anterior view.

by better technic in operating and by the removal of all possible foci of infection. X-rays should be made the day of operation and dur-

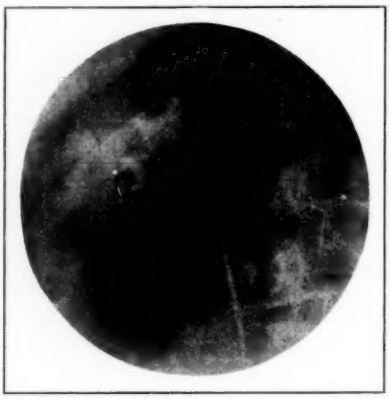


Fig. 4. (c) Gall-stones (Pyelogram Fig. 4). Anterior-posterior view.

ing convalescence. Wherever possible fluoroscopic observations should be made at the time and in conjunction with the operation. Invaluable aid is often rendered the surgeon in localization of the stones and it is the best insurance against overlooking a stone or broken off fragment. The fact that two stones may be superimposed and cast a single shadow must always be borne in mind by the operator. No doubt this is often the real explanation for so-called recurrences.

Recurrences are less frequent than formerly. Braasch and Foulds in reviewing 1041 cases found a recurrence in approximately 10 per cent. Recurrence was found by them to be greater following the removal of a single than multiple stones. Mortality from renal surgery is low. C. H. Mayo reports 937 cases operated upon for kidney stones at the Mayo Clinic with only 11 deaths or 1.12 per cent.

Summary.

1. The exact etiology of stone formation is unknown.
2. Clinical symptoms should always be checked by roentgenographic and cystoscopic study.
3. More time should be devoted to the proper interpretation of roentgenographic shadows.
4. Fluoroscopic examination at the time of operation will prevent many so-called recurrences.
5. A negative urine does not exclude the possibility of urinary lithiasis.
6. Careful consideration should be given to all possible foci of infection.

References.

Rosenow. Studies on Elective Localization. Jour. of Dental Research, Vol. I, No. 3. Sept., 1919.

Rosenow and Meissner. The Production of Urinary Calculi by the Devitalization and Infection of Teeth in Dogs, With Streptococci Form Cases of Nephrolithiasis. Arch. Int. Med., June, 1923, Vol. 31, pp. 807-829.

Barney. Recurrent Renal Calculi. Boston Med. and Surg. Jour., Jan., 1922, Vol. 186, pp. 9-14.

Thomas and Tanner. Urinary Lithiasis in Children. Minn. Med., March, 1922, Vol. 5, pp. 147-152.

Cabot. Quoted by Barney.

Braasch and Moore. Stones in the Ureter. Jour-Amer. Med. Asso., Oct., 1915, Vol. 65, pp. 1234-1237.

Braasch. The Radiograph Shadow and the Cystoscope. Surg. Gyn. & Obst., April, 1911, pp. 374-378.

Crowell. The Removal of Ureteral Stone by Cystoscopic Manipulation. Jour. Urology, Vol. 6, No. 3, Sept., 1921.

Braasch and Foulds. Postoperative Results of Nephrolithiasis. Trans. Amer. Asso. Genito-Urinary Surgeons, 1923.

Mayo. Stone in the Kidney. Ann. Surg., 1920, Vol. 71, pp. 123-127.

XUM

TREATMENT OF RECENT FRACTURES.*

By J. COLEMAN MOTLEY, M. D., F. A. C. S., Abingdon, Va.

The ever increasing number of motor cars, the modern smooth surfaced highways, and the enthusiasm of motorists for "stepping on the gas" have greatly increased the problem of handling fractures. The State compensation laws and the rather alarming increase in the number of malpractice suits have given the subject a decided medico-legal interest. As a basis for the discussion of this problem, I have reviewed the records of one hundred consecutive fracture patients treated on my service at Abingdon, Va.

We find in this group of 100 cases seventy-seven injuries classified as simple fractures and thirty-six as compound fractures. The basal fractures of the skull were all regarded as compound. The regional distribution of the fractures was as follows:

Skull—base, 12; vault, 17	29
Spine	3
Jaw	3
Clavicle	2
Humerus	12
Radius	19
Ulna	13
Ribs	1
Hand	1
Foot	5
Pelvis	1
Femur	9
Patella	2
Tibia	19
Fibula	19
Hip Joint	2
Nose	2
Total	142

Twenty-two of these people were injured in automobile accidents. Two of the four deaths were due to the same cause. It has been our experience that the treatment of fractures of long bones is largely a question of mechanics applied to well established surgical principles. It is in the management of basal fractures of the skull that we meet our most serious difficulties. It has been our practice to treat this alarming condition along conservative lines—medical rather than surgical. Basal fracture cases die chiefly from two causes: meningeal infection and intracranial pressure. In combating these conditions of course, every effort is made to sterilize the ears or the nose and throat, depending on the cranial fossa involved. For the reduction of intracranial pressure our chief weapons are spinal puncture, hypertonic salt solution intravenously, and magnesium sulphate by mouth, by bowel and intravenously. The indices to increasing intracranial pressure are a falling pulse rate, rising blood pressure, increasing stupor and delirium, and the condition of the eye grounds. We use urotropin by mouth and by proctoclysis. Whether or not it has a bactericidal effect on the cerebrospinal fluid has been called in question; but in our experience it has seemed in some way to do good. We shall not engage in any serious controversy, however, with those surgeons who claim that it is perfectly useless.

Delirium is controlled by morphine and paraldehyde. If we are unable to control intracranial pressure by the means which I have indicated, we believe that we should resort to a subtemporal decompression under local anesthesia in selected cases. Fractures of the spine with paraplegia, if seen early, we think should practically always have a laminectomy performed at once. If seen two or more weeks after the injury, with the history of immediate total paraplegia and no improvement since the accident, we believe the operation to be useless. If at all possible to avoid it, we never catheterize a broken back. If left alone, the paralyzed bladder will usually overflow. Recently we have had under observation a case of spinal injury which is perhaps of sufficient interest to warrant an abstract of her history.

Case No. 9073, a colored girl of 16 years. Fell down a flight of stairs, landing on her head. Was unconscious for a period of time which we were not able accurately to determine. Finally regained consciousness, but head was rotated to the right, her chin was depressed, and her head was fixed in this position. X-ray examination showed a dislocation of the atlas on the axis and a fracture of the right transverse process of the axis. The patient was etherized and, with considerable misgiving, an effort was made to reduce the dislocation by manipulation. This was accomplished with less difficulty than was anticipated. An attempt was then made to reduce the fracture of the transverse process, and a plaster of Paris cast was applied, including the head, neck and upper thorax. The cast was removed after one month. A recent letter from the patient states that she is quite well.

In the treatment of fractures of the mandible, one is usually able to secure good reduction and fixation by wiring the adjacent teeth together. If this fails to maintain proper alignment, the lower jaw may be wired to the

*Read before the Wise County Medical Society, June 25, 1924.

XUM

upper by swinging a wire from a lower to an upper tooth. Instead of a bandage which soon comes loose, we support the lower jaw with a moulded plaster splint. As these fractures are nearly always compounded into the mouth, a thorough and adequate mouth toilet is essential to prevent bone infection and necrosis. The dentist is often of great help to us where interdental splints are indicated. It has been our experience that fractures of the clavicle may be treated with most satisfaction to the surgeon and comfort to the patient by the use of the barrel-stave splint suggested several years ago by Dr. Royster.

Fractures about the upper end of the humerus usually result in an inability to completely abduct the arm from the side. The best time to treat this disability is when the injury occurs. The injured arm should be immediately abducted to an angle of ninety degrees with the body, and maintained in that position by some apparatus such as the airplane splint until bony union occurs. For the treatment of long bones in general a few standard traction splints such as the Thomas splint for the arm and leg are rather essential; but for coaptation splints for fractures involving the radius and ulna, the tibia and fibula, Colles' fractures and Pott's fractures, we have been able to construct splints with moulded plaster of Paris that are far more comfortable to the patient and much more serviceable than any splint that we have been able to buy for the same purpose. The splint is moulded onto each individual patient, and not only fits the limb to which it is applied, but the fractured member may be placed in any position desired and it stays there after the plaster sets. The Thomas splint, a Buck's extension apparatus and a Balkan frame for suspending the limb by counter weights and pulleys is the combination which has given us the best results in the treatment of fractured femurs. In fractures just above the knee joint where it is difficult to hold the short end of bone in accurate alignment, we have found some form of ice tongs tractor to be of considerable help. The points of the tongs are driven lightly into the condyles of the femur and traction can then be applied directly to the lower fragment of the broken bone.

If the patient with a fractured hip is over sixty-five years of age, and has albumin and casts in his urine, vascular hypertension or some equally serious complication, we think it wise to entirely disregard the fracture, and get the patient up and treat the complication. In younger people it is our custom to apply traction to the limb until muscular spasm is overcome and pain relieved. We then put the limb up in a plaster cast, in a position of abduction, according to the method of Whitman. It has been our experience that most simple fractures can be reduced and successfully treated without resorting to open operation. In conditions such as spiral fractures of the lower third of the tibia where the fracture is very difficult to reduce, we have been able to manipulate the fragments into excellent position by etherizing the patient on the X-ray table and working with the injured limb directly under the fluoroscopic screen. There are two things which I consider quite essential in the treatment of fractures: the X-ray and a general anesthetic.

Sometime ago, we had a patient brought in with a fractured radius and ulna. The man was badly gassed in France and was having pulmonary hemorrhages. We did not dare give him ether. In this case we did a complete nerve block of the forearm with novocain. The fracture was reduced with surprising ease and without pain to the patient. But generally speaking, I do not feel that I can ever properly reduce the fracture of a long bone unless we have complete muscular relaxation under general anesthesia. In regard to the X-ray: Aside from its invaluable help in the diagnosis and treatment of fractures, trial courts have repeatedly entered judgment against the defendant in malpractice suits on the sole ground that the doctor did not have an X-ray picture taken of the fracture. So from a medico-legal standpoint, the doctor must use the X-ray for his own protection.

In this series of 100 cases, we resorted to open operation seven times. This was usually made necessary by fractures about the elbow joint or the patella where there are short fragments of bone difficult to hold in approximation by the ordinary means. Generally speaking, I think we have been getting better results in fracture work all over the country since our army experience during the World War. The French taught us a very valuable procedure in the so-called debridement or mechanical cleansing of wounds. At the front, this was used chiefly in the case of wounds due to shrapnel and high explosive shells. For several years we have applied this principle to the treatment of compound fractures.

XUM

It is our custom, when a fresh compound fracture is admitted, to take the patient directly from the X-ray table to the operating room, cleanse the wound with tincture of green soap and ether followed by some chlorine antiseptic. Personally, I prefer dichloramine—T. All of the lacerated, devitalized tissue around the wound margin is then cut away by a free incision. The bone fragments are then placed in apposition and, if necessary, sutured together with kangaroo tendon or heavy chromatized catgut; and loose, detached fragments of bone are removed. The wound is then closed without drainage. I think everyone tries to avoid burying any non-absorable material, such as wire or metal plates, in a wound of this character. Of course, as in all clean bone and joint surgery, the most rigid instrumental technique is followed. In practically all of these cases we have been able to secure primary union of the wound; and the compound fracture has thus at once been converted into a simple fracture. This simple procedure has added immensely to the comfort of the patient and greatly shortened his convalescence.

In regard to prognosis: Unless it is associated with a serious injury to some vital center of the body, such as the brain, or unless some fatal complication develops, fractures are crippling rather than killing in their effects. So the surgeon's energy and ingenuity may be directed largely toward the prevention of crippling deformity and impaired function. Fractures occur mostly among laborers in public works who constitute a rather floating population, and it has been difficult for us to keep in touch with all of our cases through our follow-up system. So far as we have been able to hear from them, our results have seemed to be quite satisfactory. As a general rule, in fractures involving the joints we should be rather guarded in our prognosis as to complete restoration of function. Children with fractures about the elbow joint, if the fragments are placed in apposition and the joint kept free from infection, practically always get remarkably good functional results. An adult with the same sort of injury should be advised that he may have some permanent limitation of motion in the elbow.

In the 100 cases reviewed there were four deaths. This mortality is perhaps a little higher than the general average for fractures. But it should be remembered that it is the more serious fractures and the complicated cases that are sent to the hospital. The simple cases are treated at home or in the doctor's office. It has been our experience that we learn most from a critical analysis of our failures. The ninety-six cases who recovered do not interest us so much as the four who succumbed to their injuries. With this thought in mind, I shall give a brief synopsis of the history and clinical course of the four fatal cases in our series.

Case No. 6956. Admitted with injury to head of thirty hours' duration. Was struck on right side of head by rock the size of adult fist, thrown with all the force of a strong man. Patient fell to the ground and did not speak for several hours. Bled from nose, mouth and right ear. Except for a few lucid moments during the following night, the patient had been unconscious since injury. On admission temperature 97, pulse 60. Left arm flaccid. Pupils equal and reacted normally. No facial paralysis. Clinical diagnosis of fracture, simple right temporo-parietal area extending into base, middle and anterior fossae; confirmed by X-ray. Roentgenogram did not show marked depression. Ice cap. Morphine to control pain and delirium; magnesium sulphate by mouth; spinal puncture and 100 c.c. hypertonic salt solution intravenously. Spinal fluid showed blood. Few bacteria. No intracellular diplococci. Next day, right side face and left arm paretic. Pulse 42. Spinal puncture and intravenous hypertonic salt solution repeated several times. Died on fourth day of acute respiratory paralysis. In reviewing this record, it seems quite evident that the patient died from tremendous intracranial pressure. A prompt decompression operation would possibly have changed the final outcome.

Case No. 6983. Admitted one hour after automobile accident. Hot water bottles, hot blankets and morphine on X-ray table to combat shock. Multiple compound fractures left tibia and fibula; simple comminuted fracture left femur; deep lacerated wounds face and nose; multiple contusions and abrasions; traumatic shock. Wounds of face sterilized and sutured; fractures reduced; open wounds of leg sterilized and dressed; leg put up in moulded plaster splint; and fractured femur put up in Thomas splint and suspended on Balkan frame. Did pretty well until midnight of following day when pulse suddenly became very rapid and weak; there was free diaphoresis; vomited old blood; there were clonic spasms of the upper extremities and fixation

XUM

of the jaws. He was given digitalis intravenously, 400 c.c colloid solution into the veins, and a hypodermic of atropine. Pulse disappeared, temperature 105 degrees by axilla, and death soon followed from cerebral embolus. I think this might fairly be regarded as an unavoidable death.

Case No. 7694. Admitted one hour after automobile accident. A Studebaker car had turned over on the man and his head had been caught under the motor. The gasoline receiving spout on the tank had crashed through the left orbit and completely destroyed the orbit, driving the eyeball back into the brain. On admission the patient was semi-conscious, bleeding from nose and mouth, and vomiting quantities of blood. Bleeding was profuse from the injured orbit. The hemorrhage from this source was so severe that the primary indication seemed to be to stop it. Accordingly the wound was quickly sterilized and packed with dichloramine—T gauze. The usual treatment was instituted for basal fracture which was obviously present. In spite of the packing, he bled through his nose most of the night and his pulse went up to 100. At midnight, 10 c.c. of coagulose was given subcutaneously. Two days after the injury, the man had improved sufficiently to encourage me to attempt to remove the mangled and eviscerated eye. This was done under local anesthesia and the eyelid removed from the interior of the skull and sutured back in its normal place. That night the man became wildly delirious. Pulse came down and blood pressure and temperature went up. One ounce of magnesium sulphate every four hours per bowel, and 1 drachm paraldehyde were given and spinal puncture was done. Patient died of meningitis two days following the operation. In this case it would seem that the operator's surgical judgment was at fault in electing to remove the eye two days after the injury. If it is at all possible, an eye injured in such a manner should be removed at once. If immediate operation is contraindicated, as it was in this case, it would seem wise to wait several days until the patient has built up a certain amount of immunity and Nature has, to a certain extent, walled off the injured brain from infection.

Case No. 6991. Admitted to the hospital at 3:25 P. M. At 8 A. M., same day, while working in a rock quarry, a large stone fell about eighty feet from the side of the cliff and struck the man on top of the head. He was totally unconscious from the time of the injury. Very extensive compound fracture of skull, extended into the middle fossa of the base. Bleeding occurred from nose, right ear and into right orbit. Brain tissue oozed from right ear. Head dressed. Lumbar puncture. Almost pure blood. 100 c.c. saturated salt solution intravenously; morphine; urotropin by bowel. Partial hemiplegia left side. Died 10:30 A. M. the next day. Considering the history of this patient's accident, it would seem that he, also, had a right to die.

Conclusions

1. The increasing number of fractures due to automobile accidents, the compensation laws and the country-wide epidemic of malpractice suits have given the subject of fractures a greatly increased medico-legal interest.

2. Excepting the toll of the automobile, the great majority of fractures occur among the laboring classes of people who can ill afford to lose time or suffer permanent disability. Whatever we can do to return these cripples to the ranks of producers and wage earners is well worth our serious effort.

3. In the treatment of compound fractures, debridement and primary suture of the wound markedly lessen the period of disability and add to the comfort of convalescence.

4. In the treatment of fractures, eternal vigilance and minute attention to detail is the price of success.

George Ben Johnston Memorial Hospital.

THE SIGNIFICANCE OF SOME EARLY UROLOGICAL LESIONS.*

By W. O. POINDEXTER, M. D., Newport News, Va.

In this paper I will not attempt to give any new or heretofore unknown facts. Due to the frequency with which we see urological lesions that have progressed to an incurable or dangerous condition because early symptoms have appeared to be so trivial or transient that the true condition was overlooked, even though our improved laboratory methods and instruments of diagnosis probably enable us to make a more correct, positive and localized diagnosis than in many other branches of medicine of the internal organs; and because these far advanced urological lesions often present such a pitiful and hopeless condition, accompanied by such untold suffering, I will attempt to

*Read at Annual Session of the Walter Reed Medical Society of Virginia, at Newport News, Va., May 15, 1924.

consider briefly a few of the more important early symptoms.

The matter of first importance in studying the cause of any urological symptom or lesion is to get a complete history and make a thorough physical examination, especially looking for tuberculosis, syphilis and focal infections.

Usually the first and probably the most common symptom we have to deal with is some derangement in the act of urination. Here I wish to say a few words in regard to the physiology of the normal act of urination which is not absolutely definite. Langley and Anderson have shown that the bladder in cats and dogs receives motor fibers, first from the second to fifth lumbar nerves, these fibers passing through the inferior mesenteric ganglion and reaching the bladder by way of the hypogastric nerves, and second, from the second and third sacral spinal nerves, reaching the bladder by way of the hypogastric plexus. Galtz established the general principles of the vesicle reflex. He pointed out that gradual distention of the bladder induced gentle contractions. These expressed several drops of urine into the posterior urethra, causing thereby a sensory stimulation. Thus the afferent part of the reflex, aroused the efferent impulse by which the bladder is made to contract vigorously and the sphincters to relax. Thus it was established that the act of urination is a reflex phenomenon, complicated, however, by the fact that this reflex is very completely under the control of the will.

After understanding the mechanism of normal micturition, we can better interpret the pathological findings.

Difficulty in the act may vary from a diminution in the size of the stream to a complete obstruction, either of which may come on gradually, depending upon its cause, which I might say is quite variable. Beginning with the urethra we should first determine the presence or absence of stricture; also foreign bodies such as calculi or polypi or other miscellaneous foreign material that may be introduced from without, such as hair pins, rubber catheters, etc.

Here I would like to emphasize the fact that in many women, especially past thirty-five years, suffering from frequency and tenesmus is found, with more or less discomfort over bladder region where you are unable to find any pathological condition for its cause, except what may be called a contraction or partial stenosis of the urethra. Many of these cases apparently clear up following dilatation of the urethra.

Following cystoscopy to determine the cause, a great many of these women clear up due to the dilatation resulting from the passage of the cystoscope.

After the urethra examination we should then make a rectal examination of the prostate gland, noting any abnormality in size, shape and consistency. Here we must not forget to remember that the encroachment on the sphincter is not always in direct proportion to the size of the gland and we may have a very definite prostatic obstruction without any marked palpable enlargement of the prostate as determined rectally.

The cause for painful, burning urination may be local or from some constitutional condition, causing a change in the chemical composition of the urine such as fevers or diabetes. Among the local causes may be mentioned obstruction, urethral or vesical calculi, inflammations of the urethra and bladder, cystitis except traumatic from instrumentation, catheterization, etc. These are usually secondary to infection elsewhere, and we should not be contented until we have found their origin either in the lower or upper urinary tract, or in some focus outside.

The foundation of urology is urinalysis. The practice of urinalysis is two-fold; laboratory urinalysis and clinical urinalysis. A complete laboratory urinalysis consists of:

(1) Clinical and physical examination.

(2) Microscopical examination of the centrifugal sediment of the bladder urine obtained by catheter or by the two glass method.

(3) In certain cases a comparative examination of "night" and "day" urine.

Clinical urinalysis consists in looking at the urine and interpreting what we see therein.

Pyuria or pus in the urine is probably one of the most frequent urological symptoms and at the same time one of most vital importance. We will exclude pyuria of acute urethritis, which with the other symptoms of acute inflammation is self-evident, and consider the more chronic types.

When pus is found in the urine, much information can be had by the two-glass test, which suggests to us whether the pus is coming from the anterior urethra, or from the posterior urethra or prostate.

After a thorough examination of the urine, always a catheterized specimen in the female

XUM

and a stained prostatic smear in the male, fails to reveal the source of trouble, a cystoscopic examination is called for.

In the bladder we should look for diverticulum, which very often keeps up a persistent pyuria, tumors complicated by infection and foreign bodies such as stones or other bodies that may have been introduced from without. Not being satisfied with the findings in the bladder, we must next investigate the ureters and kidneys.

When pus or pus and blood is found coming from the ureters, we have just begun the examination, and the work from now on is to determine its cause. This we can do by function test of the kidney to determine the amount of damage to the kidney structures; and we can also examine the pus to determine the type of infection we are dealing with.

When the condition present is not clearly diagnosed then we should have an X-ray picture of both kidneys, ureters and bladder before and after the injection of some opaque media, such as sodium bromide solution, to determine the presence of a stone, a dilated or kinked ureter, a dilated pelvis, renal destruction or new growth.

Hematuria, like hemorrhage elsewhere, is only a symptom and should be considered accordingly. It is always pathological and never physiological, even though its presence may be detected only by microscopical examination. It arises from a great variety of causes and may come from any part of the genito-urinary tract. If the bleeding is due to an inflammatory condition, it is usually characterized by pain and pus will be found in the urine. But otherwise hematuria is rarely accompanied by much discomfort and is generally intermittent in type.

The importance of its presence, therefore, is apt to be underestimated not only by the patient but also by the physician, in spite of the fact that the presence of blood may indicate a serious lesion in the uro-genital tract and should be considered as a very important diagnostic sign. For example, the bleeding from a papilloma or a malignant disease of the bladder is often the first and only symptom of these lesions and intervals of months or even years may elapse between bleedings. The patient in the meantime has acquired a false sense of security, believing that he has been entirely relieved, only to find on the recurrence of hemorrhage that his disease has progressed from one that may have been relieved to one of an incurable condition.

Before a final decision is made that the source and cause of the bleeding is in the urinary tract a careful history should be taken and a complete physical examination made, for in some cases of hematuria the cause is due to some pathological condition outside the genito-urinary tract.

The ingestion of certain drugs such as urotropin, cantharides, phenol, etc., may give cause for the bleeding. Acute and chronic febrile diseases such as the fevers, may be causes.

In cases of scurvy, purpura, leukemia, pernicious anemia, septic infarct and parasitic diseases, blood may appear in the urine. In some conditions such as appendicitis, cholelithiasis, demanding surgical intervention, we may have blood to appear in the urine.

But I might say, in spite of the above, hematuria is usually due to a lesion somewhere in the uro-genital tract. This lesion may be situated anywhere from meatus to kidney capsule, and while it is true that the cause of the bleeding can not always be determined, even with modern facilities, its source can usually be identified.

If blood appears at the termination of urination or so-called terminal hematuria, it is suggestive and nearly always diagnostic of a lesion within the urinary bladder. If blood appears at the meatus, its presence would indicate a lesion somewhere anterior to the sphincter muscle. The presence of blood mixed with the semen would suggest a lesion probably in the seminal vesicles or prostate. If the bleeding follows a true attack of kidney colic it would be suggestive of a lesion above the bladder.

By the two or three glass test we can probably tell whether the blood comes from the anterior urethra or beyond. When, however, it is uniformily mixed with the urine, its source can easily be detected by cystoscopic examination in most cases. Hematuria of either vesical or renal origin may be continuous, but usually it is intermittent, and if on cystoscopic examination the source can not be localized in the bladder, then ureteral catheterization is called for. It must be remembered that renal hematuria can only be detected when it is active. If not bleeding at time of examination, then it is necessary to re-examine during its active stage.

It should be borne in mind, however, that the presence of some red blood cells in the urine or even a hemorrhage after ureteral catheterization may be due to traumatism by the catheter and thus will not be a true diagnostic index. For this reason ureterograms and pyelograms should be added to establish the diagnosis. Probably the most common cause of hematuria is a growth somewhere in the genito-urinary tract.

Hinman in analyzing 709 cases of renal bleeding found that hematuria had been the initial symptom in forty-two per cent and was the only symptom in seven per cent.

Israel reported hematuria to have been the first symptom in seventy per cent of sixty-six cases.

Braasch reported eighty-three cases hypernephroma in seventy-seven per cent of which bleeding had been present for a year before other symptoms precipitated treatment.

In a series of 100 cases, Chute found sixty-four per cent due to new growths and fifty per cent of these were tumors of the bladder.

Walther reported seventy-four cases hematuria of which fifty-one per cent were due to tumors, seventy-two per cent of which were malignant; nine per cent were caused by calculi; seven per cent due to renal tuberculosis; and in four cases the condition was diagnosed as "essential hematuria."

Hunner believes that stricture of the ureter causes hematuria more often than is realized and that nephritic processes are often due to stricture.

There is a certain group of cases, and these comprise many of the so-called "essential hematurias," in my opinion, where the bleeding is caused by angioma, or varicosity of the papillae, papilloma of renal pelvis, and in some cases by vascular distention, due to mechanical rupture of blood vessels resulting from injury caused by some circulating injurious agent.

Thus, hematuria from the uro-genital tract may be a symptom of almost any pathological condition within that tract; therefore, the presence of blood in the urine must be considered as an imperative indication for the application of every diagnostic measure at our command to locate the primary source of the bleeding, and no case should be classified as one of "essential hematuria" until every diagnostic measure has been applied without avail.

138 *Twenty-eighth Street.*

BETTER OBSTETRICS: HOW SUCH MAY BE OBTAINED.

By BURNLEY LANKFORD, M. D., Norfolk, Va.

Is not the medical profession as a whole ashamed of the numerous statements appearing during the last few years in medical literature, to the effect that child bearing is only a little less dangerous to women than tuberculosis or cancer; that only two civilized nations have a higher obstetric mortality than the United States (Spain and Belgium); that 16,000 women die annually in these United States as a result of pregnancy, most of them from preventable causes; that it is safer for a woman to have her baby attended by a regulated midwife than by one of our honored profession?

Such statements are beginning to find their way into the lay press. Can they be true? If they even approximate the truth, is it not high time that we, the medical profession and allied agencies, do something radical to change conditions that make such statements possible?

The report of the special committee from the American Association of Obstetricians, Gynecologists and Abdominal Surgeous on *Maternal Welfare*, headed by Dr. Geo. Clarke Mosher, of Kansas City, and read before that body last September, will show any one who will take the time to read that report (published in March issue *Amer. Journal of Obs. and Gyn.*) that the above statements are true. A little searching of the vital statistics bureaus of the several states will show the same.

It must be that thousands of earnest medical men and welfare workers are thinking along this line, and there are hopeful signs appearing on the horizon that augur well for the prospective mothers of this country. The enumeration of such signs is beyond the scope of this paper, but suffice it to say that such agencies are at work and are already bearing fruit. The midwife problem is being dealt with, and hopefully, but neither will that be discussed at this time. What we are now thinking of is the part that the regular medical profession is playing, and should play, in this near tragic drama.

Destructive criticism rarely accomplishes good, unless it be accompanied, or followed shortly, by something constructive. It will not set forward the day of better obstetrics simply to say that it is safer for a woman to have her baby alone or with a regulated midwife in

XUM

attendance than with one of us; that probably 90 per cent of women, if left alone, without doctor or midwife would deliver themselves safely, albeit with much unnecessary travail and pain. It is for us to set as our aim and object the saving of that extra 10 per cent, the amelioration of unnecessary pain, and the lessening of the difficulties of the 90 per cent. If so large a per cent of women can deliver themselves without our assistance, how can we warrant the confidence imposed in us by the women who continue to commit themselves and their unborn children to our guidance during pregnancy, and to our care during labor? How can we as a profession continue to make ourselves worthy of this trust? We must develop in every community a sufficient number of physicians to care for the obstetric needs of that community. These men must be qualified for that work—1st, by temperament; 2nd, by training and experience; 3rd, by the possession of the time available that is an essential for good obstetrics.

There is no question but what a certain temperament is needed by any one who would do careful obstetrics and one of the chief characteristics of such a temperament must be patience. A physician who cannot wait (without sleeping or swearing) ought not to go into obstetrics. This capability for waiting must be coupled with the ability, courage and judgment to interfere, to become active, when, in the best interests of the patient, waiting should be changed into activity.

The love for this kind of work should be inherent in the man who would do it well, or else that love should have come to him gradually, from years of general practice, wherein he has found himself gradually and willingly drawn to it.

For the practice of good obstetrics, or for the improvement of the quality of obstetrics practiced in any community, those who are to do it should have had adequate training. This cannot be had from lectures and textbooks alone, but must have come from actual bedside experience, preferably moulded and guided by good teachers. The accumulated experience of master observers, teachers, can be partially passed on to others, and such should eminently be the case in the acquisition of obstetric ability. By training under such teachers and in the presence of actual bedside work, obstetric poise and judgment may be much more rapidly and accurately acquired than when such experience has to be accumulated through years of lonely, individual, undirected work; in fact, the desired ability may never be obtained by such method. Fortunately, teaching centers are now available in many cities, where careful obstetrics is not only practiced but also taught to both students and post-graduates. At these centers, all who will may increase their knowledge, improve their technic, broaden their experience—in short, make competent obstetricians of themselves. All that is essential is the obstetric urge.

The training and experience needed to justify a physician in offering his services to the public as a properly qualified obstetrician must be acquired in one of two ways: either he may choose obstetrics directly after graduation from medical college and perfect himself by a sufficient apprenticeship in maternity hospitals, under good teachers; or he may go into general practice, and after a number of years—during which he has acquired some catch-as-catch-can experience, and having found himself drawn to obstetrics—he may leave his general work, and spend sufficient time in study to acquaint himself with the best obstetric thought and practice of his day. A sufficient number of physicians developed by either method will tremendously raise the standard of obstetrics in *this* generation. Those developed by the first mentioned process will be better qualified to act as teachers of the next generation; those by the second process can be the means of making obstetrics what it should be right *now*.

This brings us to the question of the time that must be available to the doctor who would do good obstetrics, or who would limit his work entirely to that, the presumption being that by so limiting his work he could and would do better work. It is probably true that the chief reason why the practice of obstetrics is so inefficient is that the men in general practice do not have the necessary time, and they are the ones who have to do the bulk of obstetrics throughout the country.

How can the general practitioner give the time, attention and thought to a difficult confinement when he is harassed by dozen different kinds of cases demanding his attention the same day, knowing that his office work is impatiently waiting, or that he has five or ten

calls to make before he can get to his supper or his bed; or, if up the greater part of the night, knowing that he cannot sleep the next morning but must make his calls and get to his office? The same man when he gets to his office may find six patients waiting, one of them a young primipara, to whom he does not have the time to give the instruction that she needs, nor to answer the questions that have occurred to her and upon which she should have enlightenment. Is it any wonder that physicians so situated seldom have the time to give the women of their communities their best obstetric services?

Now, contrast the work of those who have limited their practice to obstetrics. There is only one type of emergency and that is a patient in labor. Suppose the doctor is called from his office to a delivery or to some other obstetric emergency? Any prenatal or postnatal cases who happen to be in his office know why he has to leave, and none of them objects, none of them cannot or will not return the next day; his entire clientele is composed of such cases and he does not have to worry over neglected or unsatisfied office patients. Or, suppose he is detained with a confinement during his office hour? He simply has to telephone his office to let those who may happen to be there know why he is absent, and to have his nurse let those know who are due at his office that day. Suppose he finishes with a case at five or six A. M.? He may go home and sleep until ten. Thus he has more time for attention to his deliveries, for proper prenatal and postnatal observation of his cases, for his own reading, rest and recreation.

The ideal situation, both from the standpoint of the obstetrician and also for the best interests of the public, is that two physicians should associate themselves in this work, although not necessarily in a partnership. Each may have his own personal clientele, but it should be understood when the patient comes in the first time, to engage either of them, if that one should be out of town, or temporarily unavailable, the other one will attend her at labor. Two such physicians could have the same office with different hours, and such an arrangement would leave each of them with initiative and stimulus to build up his work, and to depend mostly upon his own efforts, but at the same time his expenses are halved, and he has more time for attendance on medical societies, without undue anxiety about his work; more time for short trips, to clinics, etc.

How may physicians be interested sufficiently to go into obstetrics either directly from the hospitals, or from a general practice? Those men to whom the financial returns are essential must be assured of an adequate income to warrant the giving up of general practice, or to warrant going into obstetrics from the beginning of their medical careers. Some men from both classes will have sufficient outside income to assure them a living, and to such the inward satisfaction of limited work must appeal. They must be shown the need for their services, how they can make their lives and efforts count in raising the standard of obstetrics. They must be reminded that in no branch of medicine does the doctor have the love of his patients to as great an extent, unless it be in pediatrics; that it more nearly approaches the status of the family physician than any of the other specialties; that it deals with the bringing of life and happiness, and is far less associated with death and sorrow than general work.

What obstetrician does not recognize and almost daily experience the joy expressed in Edgar Guest's poem, "It's A Boy!" and who, having been present at a successful birth, has not felt the happiness expressed in this verse of that charming poem by Elizabeth Hepburn,

> "No seer's prophetic dream,
> No star in all the skies,
> Burns with a luster half so bright
> As happy mother eyes."

The physician contemplating obstetrics as his life work must not let his confreres frighten him off with the accusation (often expressed) that he will be nothing more than a male midwife! Let him remember that the American College of Surgeons recognizes obstetrics as one of its main departments, and that there is plenty of room for surgery and the use of surgical principles; if he be inclined to surgery and qualified therefor, he may combine gynecology with obstetrics.

The general practitioner who loves obstetrics, but who must make a living and who fears to give up his general work, as well as the younger man, fresh from the hospitals, who has his living to make, can be assured that if they "deliver the goods," the remuneration will be sufficient for their needs. This has been proved time and again and only needs the exercise of faith to prove true in the experience of those who have dared put it to the test.

XUM

A spirit of co-operation must be developed between the other members of the profession and those who would do obstretrics alone, or as the major part of their work. Where such co-operation can be obtained there will be work enough for all, and a better class of work, accomplished under more pleasant conditions.

The latest obtainable figures from the U. S. Census Bureau show that there is in the average communities one doctor to every 500 of the population; that there are twenty-five births per year to each 1,000 of population. Thus, in a city of 100,000, there should be 2,500 births per year and 200 doctors. These 200 will include all the specialties and there should be twenty who would devote their time to obstetrics. This would average 125 cases per year, which would keep them busy and enable them to do *all* the obstetrics of the community, thus eliminating the midwife. A certain per cent of the 125 will, of course, be clinic or charity material, because the poorer classes will have to be cared for; they deserve as much care during labor, and should have as close observation during the prenatal and postnatal periods as the well-to-do, *if* we would raise the standard of obstetric results throughout the country.

In the care of the poorer and clinic classes, the doctor would be assisted by nurses from the various welfare organizations, and, in the teaching centers by medical students. Such help will relieve the doctors of much of the drudgery connected with home obstetrics.

The question of fees may be briefly discussed just here. Considering the length of time given, and the risks involved, there is probably no part of the general practitioner's work for which he is so poorly paid as his obstetrics. This may be partly his own fault, part he may have inherited from his professional forbears. All communities should be educated to the importance of safer obstetrics, and to obtain such, the fees paid must be more in keeping with the value of the services rendered. At the same time, what we may call the non-participating part of the public would be learning that the poorer classes should have better attention and that more adequate means should be provided in the way of prenatal centers, skilled home nurses and more hospital beds devoted to the use of lying-in women. This same idea or plan can be extended to the smaller cities and even to townships and villages, where the several practitioners could refer the village and surrounding county obstetric work to one of their number more especially fitted for it. If the doctors who despise obstetrics, yet who feel they have to accept such cases in order to keep the family practice, care to do so, they will rid themselves of what they consider a nuisance, for they will at the same time gain in general work from the general work given up by the men who will limit themselves to obstetrics, so that, in the end, no one will be the loser. The question involved in the above paragraph, and the solution suggested, would seem to be one of the most important connected with this whole matter of better obstetrics and how obtained.

The establishing of proper fees for special work would have to be worked out by various communities for themselves. It has always seemed to me that the most satisfactory plan is to have a minimum standard fee that will give the obstetrician a fair return, and that will not be prohibitive or a hardship for the clientele of that particular community. This minimum fee should be based upon the services rendered for the normal case, and should be so stated to the husband who should understand clearly that should the conduct of the case demand unusual time, or skill, or anxiety, there will be an extra charge. The flat minimum fee plan will allow a much closer co-operation between the doctor and his patient than where a charge is made for each office call, each visit to the home, each examination of urine, each post partum visit, etc. The patient of restricted but adequate means will be more likely to limit her visits to her doctor's office if she knows she has to pay for each visit there; and thus golden opportunities for prophylactic measures may be lost. She will be less likely to use the telephone in reporting unusual or untoward symptoms if she knows she will be charged for each 'phone call. The question of money will inevitably be more to the front, and will make the "*rapport*" between doctor and patient less cordial than where the thought of money can be largely eliminated. On the other hand, the physician will find himself looking after his patients more frequently if he feels that he is not laying himself open to the criticism of making unnecessary visits, or demanding unnecessary office visits from his patients. Everything that will make for pleasant relations between the profession and the

public will certainly help to bring about a rise in the standard of obstetrics.

A constructive suggestion in the effort to improve the practice of obstetrics is that more general medical societies should devote sectional meetings to obstetrics and pediatrics combined. More obstetricians and more doctors interested largely in obstetrics should seek and obtain admission to the larger sectional or national obstetrical societies, the attendance on which invariably sends a man home with renewed vigor and aspiration as well as additional knowledge.

A minimum standard of obstetric care should be established by our profession, such as could be attained by all who offer for or accept obstetrical cases. If, after a fair lapse of time, it be found that we, as a profession, are not living up to that standard, the public should be taken into confidence, just as it has been in the standardization of surgery and hospitals, which has been brought about with such good results during the last few years.

400 *Fairfax Avenue.*

REPORT OF ONE HUNDRED AND SEVEN CONSECUTIVE LAPAROTOMIES FOR PELVIC DISEASE IN WOMEN.*

By GEORGE H. REESE, M. A., M. D., Petersburg, Va.

This paper is based on a series of one hundred and seven consecutive abdominal operations performed in the Petersburg Hospital, for pelvic diseases of women, during a period ending August 19, 1924.

In this series are found:

16 cases of uterine fibroids,
4 cases of ovarian cysts,
7 cases of ectopic pregnancy,
2 caesarean sections,
2 cases of uterine retroflexion,
74 cases of salpingitis,
2 cases of diffuse suppurative peritonitis.

As a great deal of the associated pathology found in these cases has been reported before this society in a previous paper, it will be omitted here.

This record was completed with an operative mortalty of one. This case of diffuse suppurative peritonitis of tubal origin died the morning following incision and drainage. She was urged to submit to operation a month before, but refused until thoroughly septic.

A case in which a supravaginal hysterectomy for multiple fibroids was done dropped dead shortly after returning home.

As to morbidity, one case operated on about two years ago for fibroids returned recently with a cervical carcinoma. Two others have returned with complaints; one of a right ovary which I punctured and left instead of removing; the other with pain at the site of a ventral fixaton, following an operation for salpingitis.

This is the sum of mortality and morbidity to date, as far as I have been able to determine.

A point in connection with this report, which is of great interest to the writer and might be emphasized to advantage, is that none of these cases of ectopic pregnancy was either seen or operated on by him, while in a state of acute shock. One was unruptured and of course presented no severe symptoms. All the others gave the usual history of missed periods, pain, shock, hemorrhage, etc., in varying degrees of severity. In several, the symptoms and signs were so mild and remote as to leave the diagnosis in doubt. In the severer cases the important point is that all had rallied.

This has been extremely interesting in the light of statements by Warbasse and Ashton, that "Statistics show that the mortality among patients operated upon during the acute depression incident to hemorrhage and shock is about fifty per cent; and that among patients operated upon after hemorrhage has ceased, the mortality in skilled hands is less than five per cent.

"Of patients treated by rest and the general constitutional measures employed in internal hemorrhage, in about ninety-five per cent the bleeding will stop and the patient recover from the immediate dangers of hemorrhage and shock.

"It is obvious that not to operate at all gives the patient a better chance for life than to operate during the stage of acute depression.

"Most of these cases are seen by the surgeon after the bleeding has stopped and the patient is recovering from the shock. When it is apparent that the pulse is growing stronger and that hemorrhage is not progressing, the surgeon should wait until the condition of the patient has improved to a point at which operation can safely be done. On the other hand, when the surgeon sees the patient at a time when hemorrhage is going on, he stands in a position in which judgment born of experience

*Read at the meeting of the Southside Virginia Medical Society in Richmond, September 16, 1924.

is of the utmost importance. If the patient is now operated upon the hazard is very great. Will the bleeding stop spontaneously and how soon?

"It is possible for the bleeding in about five per cent of the cases to go on and kill the patient. Is this particular case of this class?

"As a general plan of procedure of the average surgeon, spontaneous stoppage of the bleeding should be waited for. This is the general rule for general guidance. As an exception to the above rule, the surgeon of skill and experience in abdominal surgery, who can surround his patient with every measure for preventing shock, should operate at once if the evidences of progressive bleeding are present."

This long quotation from Warbasse has been adopted because it seems to cover the situation, and because of a seemingly prevalent belief in much of the medical and surgical world that all of these cases, without exception, must be operated upon immediately if the patient is to have a chance of life. That this is a very erroneous conception is readily apparent in the light of the above quoted statistics.

All writers agree that there is a certain class of these cases, which Ashton terms the cataclysmic, which when seen in a state of profound shock, with evidence of continued bleeding which does not respond shortly to treatment, should be operated upon without further delay. But, to promulgate the principle, as most of the older writers did, and some still do, of operating on all these cases as soon as the diagnosis is made, regardless of the condition of the patient, seems, in the light of more recent evidence and of modern methods of dealing with hemorrhage and shock, a procedure too radical for general acceptance.

Why, it may be asked, should blood extravasated within the abdominal cavity from a tubal pregnancy create so much more apprehension as to its ultimate results than an equal quantity of blood lost in the same time from any other source? And further, why should not these cases receive the same benefit from the usual treatment of shock and hemorrhage that other shocked and hemorrhagic cases receive?

In severe bleeding from a severed artery, in ordinary abortion, a pulmonary or a typhoid case, or from any other source, the hemorrhage generally stops when the blood pressure is sufficiently lowered. This is one of nature's well known ways of controlling hemorrhage.

It would seem, in view of the above statements, that this class of cases offers an attractive field for repeated pulse and blood pressure records and hemoglobin estimates, together with the administration of morphine and atropine, saline and adrenalin; and, better still, a blood transfusion—in short, for such measures as are advised and which experience has shown to be almost invaluable in other hemorrhagic conditions of equal severity. Most of these can be done quickly, and should never be omitted, while preparations are being made for an operation, which should not be performed immediately, unless the patient fails to rally.

Such a procedure is entirely feasible and, under any circumstances, highly desirable. If uniformly practiced, it would doubtless save many women from the vicious ordeal of undergoing a major operation while in a state of profound depression.

BIBLIOGRAPHY.

Warbasse. Surgical Treatment, Vol. III, Page 436.
Ashton. Gynecology, Sixth Edition, page 576.
Keene. Surgery.
De Lee. Obstetrics.
Crile, Geo. W. Differentiation Between the Quick and the Dead. Iowa State Med. Jour., July 10, 1924.
Dudley. Gynecology.
Rost. Pathological Physiology, page 166.

3 *North Adams Street.*

INTRACRANIAL HEMORRHAGE IN THE NEW BORN.*

By JOHN O. BOYD, M. D., Roanoke, Va.

This condition has been recognized in the fatal cases and has been studied as the spastic end result for a long time, but it is the acute stages of the smaller hemorrhages that I want to bring to your attention. We all realize that there exist and, in fact, we see many cases of physical impairment and mental retardation which are undoubtedly the result of intracranial hemorrhage at birth that, had they been recognized and properly treated, might have been relieved of much of their suffering and permanent deformity.

The marked difference in the cranial anatomy of the new born babe from that of the adult very probably is a factor in the occurrence of intracranial hemorrhage in the new born. A recent article by Dr. William Sharpe clearly shows the difference.

*Read before the Southwestern Virginia Medical Society at its meeting in Marion, September 11 and 12, 1924.

Dr. Sharpe[1] writes, "Brindau, Cushing and others have observed that the number of supracortical veins running from the pia-arachnoid to the sinuses are free and unsupported by any connective tissue or dural coverings, thereby rendering these vessels more liable to rupture; they are most numerous in the parietal and frontal regions and are grouped in the immediate vicinity of the sutures, especially frontoparietal and sagittal. The diploe is absent until the second year of life. Browning had demonstrated that Pacchionian bodies are not present at birth and are a matter of postnatal development, probably not completed until about the twentieth year. The middle meningeal artery usually runs vertically up the squamosphenoid suture instead of backward and it divides into three branches instead of only two. The Rolandic area lies adjacent and immediately posterior to the coronal suture and runs parallel with it. The fontanelles are covered with two main layers only, the skin and superficial fascia constituting one layer, and the other, the membranous interosseous layer, is composed of fused periosteum and dura, and it is impossible to separate them.

ETIOLOGY

Intracranial hemorrhage in the new born is usually from three main causes, and at times two or more might act jointly to cause the hemorrhage or be an agent to increase the size after the hemorrhage had once started.

The etiological classification is (a) trauma; (b) asphyxia; (c) blood disease of the new born.

(a) 1. Dystocia, which may be due to maternal, fetal or placental causes.

2. Rapid or precipipate delivery.

3. High forceps.

4. Breech presentation.

5. Pituitrin. To divert a little from this subject I want to say a word about this remedy. In my opinion the improper use of pituitrin causes more injury in obstetrics, both to mother and infant, than any other agent we have at hand. When given in a case of labor where for some reason labor is not progressing as rapidly as it apparently should, we have very much the same condition existing as the improper use of forceps. The rapid and harder pains cause a quicker moulding of the head and the almost continuous pains do not give time for equalization in the circulation of the infant between pains.

6. Early rupture of the amniotic sac.

7. Vigorous methods of resuscitation. If any injury has been done, the very vigorous efforts to resuscitate the infant, after the Schultz method, will tend to increase the size of the hemorrhage, particularly in those cases where there is blood disease of the new born.

You can readily see that in the first six causes enumerated, one or more of which are factors in the process of moulding, this moulding effects a change in the relative position of the skull bones, which is most pronounced in the sagittal suture. The over-riding of the parietal bones causes the dura to both fold and stretch. If this overlapping[2] is excessive (mechanical dystocia or suddenly and rapidly accomplished delivery as with forceps, pituitrin and precipitate labor), or if the dura is abnormally fragile as in prematurity, the dura may break and a hemorrhage result.

The changed configuration of the moulded head is far more important than overlapping of the bones as a causative agent.

We all know that compression of the head in any one direction results in the shortening of the diameter lying in the direction of the pressure, and a simultaneous compensatory lengthening of the diameter perpendicular to the one reduced. Therefore, compression of the head during the second stage of labor along either the anteroposterior or the lateral diameters, always leads to an increase in the length of the vertical diameters of the infant's head. The cranium becomes more convex and the falx is pulled upward. It is generally believed that certain histologic structural details of such tissues as bones or ligaments permit reliable reductions in regard to the functional purpose of these textures. The longitudinal arrangement of the fibers in the falx and their lateral extension on either side into the tentorium then would indicate that it is the chief mechanical task of the falx to prevent an abnormal extension of the long diameters of the cranium; i. e., to counteract during moulding the effect of lateral compression. But sudden or excessive compression in either a lateral or longitudinal direction, by raising the falx, would exert a definite pull at the place where the fibers of the falx diverge to either side to form the upper blade of the tentorium.

This also represents the relatively weakest part of the falx and, as a matter of fact, it is the site of predilection for tentorial tears.

(b) Asphyxia caused by interference in the fetal or maternal circulation due to pressure

XUM

on the cord as in cases of breech presentation or cord about the neck; premature separation of the placenta; decreased placental blood supply which may result from continued and vigorous contractions of the uterus, after giving pituitrin.

(c) Blood diseases of the new born have been proven to be a contributing agent more than an exciting cause by Sharpe, Ehrenfest and others, but it is readily seen that when a hemorrhage once starts increased length of clotting time will certainly aid to increase the size of the hemorrhage.

Symptoms

The signs of intracranial hemorrhage in the new born may be so slight that the infant appears normal, or so evident that it is impossible to make a mistake in the diagnosis. It is the milder cases that can be benefited and every effort should be made to diagnose these early.

In these cases we find an infant which has not the rosy tint but the skin is more or less cyanotic and pale around the lips, the cry is faint and after a considerable time, also weak, the respirations are accompanied usually with a sigh or grunt, the infant nurses poorly, or not at all, and is more or less stupid depending upon the size and location of the hemorrhage. There may be slight twitching of the eyelids, face or extremities and in severe cases there may be convulsions. At times the fontanelles are bulging, but more frequently they are normal.

Brady has classified the hemorrhage into supra—and infra-tentorial. In supra-tentorial hemorrhage, according to him, the infant is restless, sleeps little, refuses to nurse and cries excessively. Infra-tentorial cases show unusual somnolence, apathy, early cyanosis, muscular rigidity of neck and extremities.

Diagnosis

In making a diagnosis the nature of the labor must be considered, whether instrumental, precipitate, prolonged use of pituitrin, etc., any signs that may be present must be carefully studied. In any suspicious case lumbar puncture should be done and if the fluid withdrawn is bloody or even yellow it is fair to the infant to make a diagnosis of intracranial hemorrhage.

Sharpe did a lumbar puncture on one hundred consecutive new born infants, and found evidence of cerebral hemorrhage in ten per cent, but the infants only showed signs of hemorrhage in six cases, the fluid withdrawn being bloody in four cases and yellow in six. The pressure of the spinal fluid was not an index to the seriousness of the hemorrhage, but the color of the fluid gave the best information, the bloody cases being the more serious.

Treatment

The treatment that offers the best hope is lumbar puncture and this may be repeated as often as the individual case indicates. If blood is present in the spinal fluid lumbar puncture should be repeated daily until clear fluid is drawn. In case the fluid is yellow, lumbar puncture should be repeated until all signs have disappeared in case any were present. Of course the infant should be kept very quiet and handled only when absolutely necessary. Father's blood, thromboplastin, or some other similar agent should be given in cases where the coagulation time is prolonged.

I want to briefly report two cases. The first one, normal delivery, the second one instrumental.

Case 1.—Mrs. S., age 24, normal individual with a true diameter 9.5 cm. Labor started April 6, 1923, at 6 A. M. and progressed normally. At 11 A. M. the cervix was completely dilated and I ruptured the amniotic sac. The pains were moderately strong and recurring every three to four minutes. At 1:50 P. M. a male infant was born normally under chloroform anaesthesia. The baby was blue, respirations slow, cried weakly, and had a very large caput. The color improved somewhat as did the respiration, but every respiration was with a sigh. Heart sounds were normal. This birth took place at home, but before leaving the house I cautioned the family and nurse as to the seriousness of the case. Nothing further was heard from the family until the next morning when the nurse reported that the child had died very suddenly at 1 A. M. The infant after death was very badly discolored from the clavicle up, covering both sides of the neck and face.

In this case, which showed nothing abnormal in the labor, I believe the hemorrhage was influenced by rupturing the sac, the hydrostatic pressure being released in this way earlier than it would otherwise have been. I have never heard of early ruptures of the sac being a contributory cause, but it is reasonable to believe the more rigid birth canal would be a factor, when the pressure was not equalized at all by the unruptured sac.

Case 2.—The second case I wish to report is Mrs. G., age 24. Her personal history is negative. She gave birth to a normal child with normal labor in June, 1921. Her measurements were normal, but the spine was prominent.

June 10, labor started at 4 A. M., continuing normally. The amniotic sac ruptured at 6:45 A. M. Examination was made at 7 A. M. Abdominal vertex presenting fetal heart, 130 per minute, left side near the mid-line. Vaginal vertex L. O. A. Cervix dilated 1½ inches and thick.

At 11:30 A. M. patient was prepared for instrumental delivery. Examination showed cervix dilated and the head above a prominent spine. Forceps were applied at 11:45 A. M. and after much difficulty a male infant was delivered at 12:15 P. M. Weight of infant eight pounds, length fifty-four cm., other measurements normal. Marks from pressure by the instruments showed about each ear.

This baby cried a great deal, nursed poorly, breathed with a definite sigh, showed jaundice, and twitching of the extremities. Lumbar puncture showed blood and 3 c.c. of bloody fluid were withdrawn. Almost immediately after the lumbar puncture the infant became quieter, rested better, twitching ceased and he started taking the breasts. Lumbar puncture was done only once on this case as the signs all showed continued improvement. He has not shown any more signs of pressure. If I were treating this case at present lumbar puncture would be repeated frequently, certainly until the fluid was clear.

In conclusion, the following rules may be considered prophylactic. Never force an unmoulded head quickly through the pelvis, either with large doses of pituitrin or with hurried forceps extraction. Remember how tender the immature child's tissues may be and that rapid compression of the head might prove disastrous.

Remember an episiotomy is an excellent protective measure against intracephalic injury when dealing with a rigid perineum.

Limit the use of forceps to urgent indications. For the sake of the infant and mother practice gentleness in every obstetrical case. Two bronze mottoes posted in every delivery room at the Chicago Lying-In Hospital express clearly what should be followed by every doctor attending a case of confinement, for the welfare of both mother and child.

Primum Nil Nocete (first of all do no damage). *Non Vi Sed Arte* (not with strength but with art).

1. Sharpe & Maclaire, A. J. of O. & G. Aug., 1924.
2. Ehrenfest, A. J. Dis. Child. Dec., 1923.

THE OCULAR FACTOR IN HEADACHES.*

By FRANK M. DILLARD, M. D., Alexandria, Va.

The symptom for which I am most frequently consulted is headache, and I may safely say the above is true in the practice of all oculists. The medical man will find 25 per cent of all his patients complaining of some form of this disturbance.

The eye factor in all forms of headaches is greater than is generally supposed. Probably not less than 75 per cent are due to eye strain. The other 25 per cent can be traced to abnormalities about the nose and diseases of the nasal accessory sinuses, and to the general diseases that are accompanied with headaches. Headaches that are due to eye strain are invariably bilateral. The one-sided headaches are not commonly due to eye strain.

In the study of headaches, the site, the character of the pain or distress, the time of day of occurrence, and greatest severity, with the character and amount of employment of the eyes, and the state of the general health, are important points for the oculist and medical man. The site of the headache, as a rule, will tell us in a general way the type of refractive error. A frontal or supra-orbital headache will suggest or indicate a hypertrophic error or farsight; occipital pain will suggest some imbalance of the ocular muscles. The bilateral temporal headaches at once suggest astigmatism, and, let me say here, as a rule, the smallest refractive astigmatic error will cause the worst headaches. When headaches occur in more than one place in the head, we at once think of a combination of refractive errors, such as combined astigmatism; that is, farsighted in one meridian and nearsighted in the other. The kind of headache due to eye strain is usually dull or they will tell you they have a dull boring sensation when they use the eyes to excess. Very seldom will you find the knifelike pains in the head due to eye strain or refractive error. You will also find the headaches due to eye strain and refractive errors to get worse or to come on, as they say, toward the end of the day. This is especially

*Read before the Alexandria City Medical Society, Alexandria, Va., October 7, 1924.

true in people who use their eyes continually for close work; and right here is a good differential symptom. The headaches that most simulate eye strain and refractive error headaches are the ones due to diseased conditions of the nose and its accessory sinuses. These headaches are invariably worse on arising in the mornings and lessen as the day advances. This can probably be explained by the filling of the sinuses when in lying posture during the night, and naturally more absorption of infection at this time. As the day goes on you have a gradual elimination of these accumulations, with less absorption. In convalescent patients from long standing diseases, and following major surgical operations, patients complain of headaches and other remote distresses due to eye strain and errors of refraction. When these patients once again reach good general health, they are able most of the time to overcome the existing error of refraction and muscular imbalance and their reflex pains disappear. The cases that do not clear up in a reasonable time after convalescence may have a permanent error of refraction or muscular imbalance, and they should always be examined under a mydriatic and if the error is found and corrected with lenses the troublesome reflex pain usually always clears up. Because a patient is wearing glasses when he comes to you or me for relief, it is no evidence that the glasses are right at the time he seeks relief. By questioning one will frequently find that the glasses were given by some incompetent optician and without the use of a mydriatic; and again, he is wearing a correction which was right at the time given, but has now been changed by time or by a rundown state of health.

The patient's description of his headache should be noted and too much care cannot be taken in getting details of the complaints given by a patient suffering from headaches. With a suspicion of an existing error of refraction, an examination under a mydriatic is always indicated up to fifty years of age. It is not safe to use a mydriatic, as a rule, when the patient is past fifty. Quite frequently we see a patient complaining of headache, and we have reasons to believe it due to eye strain. On examination we find no refractive error or external signs of eye irritation, but on a careful inspection of the conjunctiva, by turning the lower and upper lid, we find a chronic granular infection. With the headaches in this condition, the patient complains of a drowsiness and tired feeling about the head and eyes, that is worse in the afternoon. As a matter of fact many who have come for relief of headache had thought they required glasses, but examination found the cause to be a conjunctival disease. The patients as a rule get relief from their headaches and other eye symptoms as soon as the conjunctiva has responded to a course of treatment.

When headaches due to glaucoma, iritis, keratitis, and other diseases that attack the deeper eye structures, are found, they are easily recognized as caused by the affection.

Hemicrania (or one-sided headache) should make us think first of an increased intra-ocular pressure (glaucoma) and all cases of increased pressure and all migraine cases should have a complete ophthalmoscopic examination of the fundus of the eye because it might reveal a cupping of the optic discs, which is a result of increased tension and there may be no external evidence of glaucoma. A careful ophthalmoscopic examination of the fundus of the eye should be insisted upon in every patient who complains of headaches that are persistent and uncontrollable. By such examination many diseases, such as brain tumors, anemias, arteriosclerosis, toxemias, and others, are diagnosed for the first time.

Not one of the routine tests of the many that go to make up a complete eye examination should be omitted when a headache patient consults for relief, and if your best efforts are not sufficient to allay the distress entirely, advice should always be given the sufferers to seek possible relief elsewhere.

111 *North Alfred Street.*

TREATMENT OF INGUINAL HERNIA IN INFANTS AND YOUNG CHILDREN.

By LEIGH F. WATSON, M. D., Chicago, Illinois.

I believe the best rule is not to operate on a simple easily controlled inguinal hernia before the fourth year of age unless truss treatment has been given two years' trial. Most general surgeons advocate early operation without giving mechanical treatment a trial.

The results following truss treatment in infants and young children are very favorable (fifty to seventy-five per cent of cures). There is a definite mortality following the radical operation in infants and young children, which,

while lower than in adults, is still higher than in children between four and twelve years of age.

A bandage or worsted truss can be applied to an infant under a month old. After this age it can wear a light spring truss covered with muslin or flannel, with a soft cloth placed between the pad and the skin to prevent chafing. The skin must be kept clean, dry and well powdered at all times. If the little patient does not cry at night, the truss may be left off or replaced by a light bandage.

The best truss for infants and children is of the frame type and should be made of phosphor bronze so it will hold the hernia by resistance, and not by pressure on the hernial ring as with the spring truss.

A frame truss can be applied to an infant one day old if necessary. Just as much care should be exercised in fitting a truss to an infant or child as is given to an adult. The truss should be changed frequently as the child grows. The rules for fitting of trusses to adults, apply also to infants and children.

Operative treatment is indicated regardless of the age of the patient under any one of the following conditions: When the hernia is strangulated or irreducible, immediate operation is imperative; when the hernia cannot be retained by a properly fitted truss, operation should be resorted to; when the patient cannot wear a truss owing to deformity or disease; when the hernia is complicated by a hydrocele in the inguinal canal; when there is adherent omentum or intestine in the sac; when there are recurrent attacks of strangulation; when the hernia has not reduced in size after two years of truss treatment; when the parents refuse the truss and insist on operation; and when the testicle is in the inguinal canal and only partially descended.

Delayed descent of the testicle may make the fitting of a truss impossible, or the pressure of the pad on the testicle may cause pain and discomfort, as well as atrophy of it and possibly malignant degeneration.

When the little patient is under the anesthetic and there is some uncertainty as to which side the hernia is on it can nearly always be determined by gently rolling the spermatic cord between the thumb and finger. The cord is the thickest on the side of the hernia.

Great care must be taken in operating on infants and young children for hernia. The structures are very delicate, and are easily torn by careless or rough dissection and retraction. Only a very short skin incision is required, not over one and a half inches (4 cm.) long, and it should not extend below the external ring on account of the danger of urine infection. In freeing the sac from the tiny vas deferens, the greatest deftness is required.

The modified Bassini operation is done as described for the adult. On account of the short canal, one or two deep sutures are sufficient in infants, and two or three in older children. The cord can be transplanted without injury if the dissection is carried out very gently.

Some operators are content with a simple ligation of the sac that leaves the cord undisturbed. However, in infants and children, as in adults, there is a higher percentage of recurrences when the cord is not transplanted. It is usually not necessary to overlap the aponeurosis of the external oblique, unless it has been stretched by a large hernia. The subcutaneous tissues and skin are closed without drainage.

In operating on infants and young children, small instruments, such as used in eye work, are a decided advantage to minimize trauma to the delicate tissues.

A waterproof dressing for the wound is essential for these little patients to prevent contamination by urine and feces. A small gauze dressing is placed over the wound and covered by a piece of gutta percha. Several layers of gauze squares saturated with collodion are successively applied over the gutta percha and extended beyond its edges. The regular gauze or cotton pad dressing is placed over the collodion gauze dressing, and changed whenever it becomes soiled. If the adhesive straps and lower half of the dressings are painted with collodion or compound tincture of benzoin, there will be slight danger of the wound becoming infected from urine.

When there is an unusual danger of urine contaminating the wound it is advisable to cement a few layers of gauze to the wound by a solution of india rubber dissolved in chloroform. This is more adhesive and protective than collodion.

Infants are only slightly inconvenienced by operation. They are able to nurse soon afterward, and can be given to the care of their mothers almost immediately. Older children sometimes require a dose or two of paregoric for the pain and restlessness.

XUM

The head of the bed is kept elevated, so that when the child urinates there is less danger of contaminating the wound. In male children, I stretch a piece of gutta percha or rubber sheeting or adhesive plaster over the penis and fasten it on either side to the thighs. A bed arranged so that the covers are held up by a frame and do not touch the child, will prevent the danger of wet covers coming in contact with the wound dressing, soiling and loosening it. Children who can walk alone should be kept in bed one to two weeks.

Strangulated hernia.—Strangulation may occur any time after birth. In infants the most striking symptoms of strangulation are: Profound collapse, with rapid, thready pulse, and cold damp extremities; vomiting, first of stomach contents, followed by intestinal contents; and violent, continuous and uncontrollable screaming.

If the strangulated hernia is of only a few hours' duration, an attempt to reduce it by cautious taxis is sometimes justifiable. The child can be placed in a warm mustard bath or hot compresses may be applied to the tumor, which is gently kneaded. If this is unsuccessful, sometimes reduction can be effected by slinging the child up by its feet, with its head downward, and while in this position making taxis on the strangulated mass. Often it is helpful to have the foot of the bed elevated while applying gentle pressure on the tumor; and sometimes flexing the thigh and rotating it outward will aid taxis. Taxis in infants and young children must be applied cautiously. Too violent efforts may cause crushing of the testicle or intestine, followed by gangrene.

In strangulation of more than a few hours' duration, immediate operation is imperative without preliminary attempts at taxis; in strangulation of very short duration, if taxis is unsuccessful after a few minutes' trial, operation must be done at once without further attempt at taxis.

Shock and chilling of the body must be guarded against by placing an electric pad under the little patient on the operating table, or by surrounding him with hot water bottles. The quickest and simplest operation must be done; usually it is best not to take the extra time required to transplant the cord.

30 *North Michigan Avenue.*

Clinical Reports

REPORT OF TWO CASES OF RESECTION OF THE STOMACH UNDER LOCAL ANESTHESIA.*

By J. SHELTON HORSLEY, M. D., Richmond, Va.

The first of these two patients was a rather bad surgical risk, and general anesthesia seemed contraindicated. For the second, general anesthesia could have been administered, but the patient had a marked amount of albumin in his urine, though the phenolsulphonephthalein test was satisfactory.

These two patients, operated upon within two months of each other, made such a satisfactory convalescence from an extensive operation performed under local anesthesia that their report may be of some interest.

Case 1.—Mr. T. M. H., white, age 68, entered St. Elizabeth's Hospital July 9, 1924. He had had a double inguinal hernia for three years. About ten or twelve days before admission he began vomiting and his bowels moved with difficulty. The vomitus contained food eaten one or two days previously. The patient vomited every night one or more times. Vomiting relieved the nausea and sense of fullness in the stomach. He had a good appetite and ate rather heartily in spite of the vomiting. He had lost fifteen pounds in two weeks. Physical examination showed a rather poorly nourished patient with dry and flabby skin, a definite recent loss of weight, bilateral internal squint, arteriosclerosis, cardiac hypertrophy, and aortic insufficiency. The pulse was 60 and regular. The blood pressure was 110/70. An irregular, rather freely movable mass was felt in the middle of the left epigastric region. He had bilateral inguinal hernia. Roentgen ray examination showed a gross defect in the pyloric end of the stomach, involving both curvatures and extending for four or five inches along the greater curvature. A 70 per cent barium retention was present at the end of four hours, and 35 per cent after 24 hours. The diagnosis was inoperable carcinoma of the stomach with pyloric obstruction. A palliative gastroenterostomy seemed indicated.

Laboratory reports showed the hemoglobin 70, red blood cells 4,600,000 and white blood cells 7,400. Two-hour phenolsulphonephthalein kidney test showed 75 per cent. The urine con-

*Reported at the fifty-fifth annual meeting of the Medical Society of Virginia, at Staunton, October 15, 1924.

tained 1-plus albumin, and an occasional hyalin cast and pus cell. The blood Wassermann was negative.

On account of the patient's age, general debility and cardiac condition, he was operated upon under local anesthesia on July 14, 1924. The stomach was found freely movable, with a few hard lymph nodes along both curvatures. No enlarged lymph nodes could be palpated aside from those near the curvatures. There was no enlargement or suspicion of any metastasis around the liver. It was thought that the case was operable, and after infiltrating the posterior peritoneum and the peritoneum about the pancreas and the gastrocolic omentum, almost half of the stomach was excised with comparatively little pain. The tissues were very movable and the stump of the stomach was anastomosed to the end of the duodenum by a modified Billroth I operation, in which the duodenum was split for about 1½ inches so as to flare it open and united to the upper portion of the stump of the stomach.

The specimen consisted of part of the cardiac, all of the pyloric end of the stomach, and part of the duodenum. It measured 10 cm. on the lesser curvature and 16 cm. on the greater curvature. Microscopic examination showed definite carcinoma of the stomach with metastases in the adjacent lymph nodes.

The patient left the table with a pulse of 80. The pulse during the convalescence never rose above 88. Following operation, gastric lavage was done twice daily for three days, once daily for two more days, and then discontinued. His recovery was rapid and uneventful. The patient left the hospital on August 8, 1924, with digestion apparently in good condition for ordinary diet. His general appearance was much better than when he was admitted.

Case 2.—Mr. C. H. P., white, age 59, entered St. Elizabeth's Hospital September 10, 1924, complaining of dull throbbing pain in the pit of the stomach. He first noticed this pain eight or nine years ago, occurring in cycles lasting for two or three months. The duration of pain then was about half an hour. It gradually became more frequent and more prolonged until on admission the pain was present every day and lasted about twelve hours. The pain was relieved for several hours by hot water and soda. It did not seem to have any definite relation to meals, and would occur immediately after eating or sometimes at midnight. He had much gas and a feeling of fullness in the stomach. He belched frequently. These latter symptoms usually accompanied the pain. The patient had lost fifteen pounds during the last few months.

Physical examination showed definite loss of weight, pyorrhoea alveolaris, and bad teeth. The heart showed extra systoles, pulse rate 72, blood pressure 158/100. There was definite arteriosclerosis. The abdominal wall was thin and relaxed, and the abdomen was scaphoid. There was marked visceroptosis. An indefinite mass in the epigastric region could be felt when the patient was standing. It was somewhat to the left of the midline and extended to about the umbilicus. There was a left hydrocele. Roentgen ray examination showed a constant filling defect at the pylorus, involving both curvatures, especially the lesser. The emptying time was about normal. Roentgen ray examination seemed to indicate cancer of the stomach.

Laboratory reports showed hemoglobin 65, red blood cells 4,620,000, and white blood cells 7,640. Differential count and blood smear were about normal. Urine showed 3-plus albumin, a few leukocytes to the high power field, and an occasional hyalin cast. Phenolsulphonephthalein was 67 per cent in two hours. Gastric analysis gave a low normal free and combined acidity, a few pus cells and a large number of red blood cells. The blood Wassermann was negative.

In view of the patient's age and rather poor condition, and the probable diagnosis of malignancy, an exploratory operation was done under local anesthesia, as in case 1. A rather firm, partly adherent mass was felt in the posterior wall of the stomach near the lesser curvature. The stomach was resected under local anesthesia as in case 1, using practically the identical technic.

The specimen consisted of part of the cardiac portion and all of the pyloric end of the stomach, and part of the duodenum. It measured 11 cm. along the lesser curvature, and 19 cm. along the greater curvature. On the posterior wall was a perforating ulcer of the stomach which had gone through to the peritoneal surface and appeared to be about to rupture into the lesser peritoneal cavity. In the pyloric portion of the stomach near the sphincter of the pylorus was a small ulcer in the anterior wall of the stomach. The large ulcer measured 2½ cm.

XUM

in diameter, and the small ulcer 1½ cm. in diameter.

Sections show chronic inflammation, but no malignancy.

The patient left the table with pulse 60, and it never went higher than 100 during the convalescence. The stomach was washed out as a routine measure, and he recovered uneventfully. He left the hospital on October 8, 1924, feeling well and with a good appetite, apparently digesting the food he was given. His abdominal wound healed by first intention.

The striking thing about these two patients is that the first one had a very extensive carcinoma and was a bad surgical risk. The second had two ulcers, the larger one in the posterior wall was about to perforate. Both patients had lost considerable weight and both were markedly arteriosclerotic. The first patient had an aortic lesion in addition, and the second had extra systoles in the heart. The operations were a little tedious under local anesthesia, but in both instances the patients left the table with pulse about as good as when the operation was begun, and they made as smooth a recovery as the average patient would after a simple appendectomy.

This experience impresses the value of local anesthesia in gastric surgery when the patient's general physical condition is much below normal. Any type of general anesthesia in either of these patients would have increased the operative risk.

617 *West Grace Street.*

REPORT OF A SUICIDE WITH STRANGE EFFECT ON SKULL.*

By W. H. RIBBLE, M. D., Wytheville, Va.

Walter B ———, age about fifty-three, was an only child. His father and mother left him a house and lot, with a barn on the lot. He fixed up the barn, lived in it and rented the house, taking his meals with the tenant.

Living alone and being uncongenial with his relatives, he frequently sought solace in drink.

On August 28, 1923, he went with two drinking companions about a mile from home, to "salt his calves." He, being more intoxicated than his companions, was left by them asleep under a tree, where he stayed all night and contracted bronchitis. A neighbor waited on him during his sickness, and Walter showed his appreciation of the kindness by willing him all his belongings.

The evening of June 29, 1924, he stayed with a neighbor, across the street from his abode, until eleven o'clock. Leaving there he went to the cabin of some colored people and asked to be allowed to sit by the kitchen stove. He remained there till daybreak and left. When breakfast was ready at his tenant's he did not show up. An investigation was made, and he was found dead on the floor at the foot of his bed, with a bullet hole through his head and his pistol at his right hand.

An examination showed no powder burn where the ball entered. On palpation, the sutures of the skull were found separated, giving the suggestion of a crushed skull. But, there could be found no bruise or abrasion on the head.

The neighbors, being questioned, had heard no report of a gun, or any disturbance; and nothing in the house or on his person showed evidence of being disturbed.

Being puzzled by the unusual conditions, I viewed the situation more critically and found blood and brain tissue spattered against the foot of the bed about two feet from the floor, and the bullet was found embedded in the ceiling. Closer investigation showed that there was powder burn just inside the wound; and the picture presented itself of the man resting his temple on the muzzle of the gun, the handle of which was against the floor, causing the explosion to take place practically inside of the skull, spreading its walls, forcing blood and brain out with the ball, and muffling the explosion so that it was not heard across the street.

There is a law suit now in progress to test the mental responsibility of the man when he willed his property to his old friend.

*Read before the meeting of the Southwestern Virginia Medical Society, in Marion, September 11 and 12, 1924.

COLLES' FRACTURE WITH AN UNUSUAL ETIOLOGY.

By J. B. H. WARING, M. D., Blanchester, Ohio.

On July 21, 1924, I was called to see Mrs. W. W., a well preserved lady of 80 years, who had always done considerable domestic work and had been quite active all her life.

She had been working in her garden that morning, and attempted to pull up a weed with an extensive root ramification; her pull

on the weed resulted in its sudden release from the ground, with the result that the dorsum of the right hand was thrown back sharply and struck an old corn stalk which had remained in place from the previous season's garden. Aside from an apparently slight laceration of the skin on dorsum of hand, about midway over the 3rd and 4th metacarpal bones, with some bruising of the tissues from the force of the blow, no apparent serious damage had been done, and Mrs. W. continued with her garden work, using the left hand for weed pulling.

The hand and wrist began to pain her and stiffen some, with moderate swelling, so that in the afternoon she invited attention of her daughter to the hand and wrist, with result that I was called and, upon examination, found a typical Colles' fracture, with moderate displacement of the fragments. Reduction was accomplished quite easily, and the arm splinted in good position.

Colles' fracture, of course, is a rather common condition; but the point of interest is the rather unusual etiology. The accident, however, should cause us to point out to our elderly patients the necessity and the advisability of refraining from heavy muscular exertion with advancing age.

American Heart Association Organized

At the last meeting of the American Medical Association in Chicago in June, a group of men interested in the prevention and relief of heart disease, organized under the above name. Dr. Lewis A. Conner, of New York, was elected president. The officers named will hold until the first annual meeting which will be held in February, 1925. Offices are at 370 Seventh Avenue, New York City, with M. L. Woughter as acting executive secretary.

Local Heart associations are already in active operation in New York City, Boston, Philadelphia and Chicago.

Framingham Monograph No. 10,

The last of the series of Framingham Monographs prepared by Dr. Donald B. Armstrong, has just been issued and comprises under one cover a summary of the chief activities and findings of the Framingham Demonstration during the seven-year period, 1917 to 1923, inclusive. Copies of this final report may be purchased for 25 cents per copy. Copies of the other monographs are also available for purchase upon request made to the National Tuberculosis Association, 370 Seventh Avenue, New York.

New Child-Labor Laws Proposed in Louisiana.

A 9-hour day and 54-hour week for children under 18 and for women employed in factories, stores, laundries, restaurants, etc., is proposed by a bill favorably reported in the Louisiana legislature. Under this bill, if passed, children between 14 and 16 would be required to complete the 5th grade and to have a physical examination before they received work permits. At present children may be employed 10 hours a day and 60 hours a week in Louisiana.

Study of Cleveland Newsboys.

The Ohio Consumers' League recently studied more than 800 children found selling on the streets of Cleveland, 715 of whom were newsboys. Over one-third of these boys were under 12 years of age. The majority of them were earning less than $3 a week and only 14 mothers out of 50 reported that the earnings of the children were needed at home. The children who did street trading were found to be far behind other children in school and more than half of them had physical defects which, it was believed, might be rendered serious by continued exposure and fatigue.

Book Announcements

Students' Guide to Operative Surgery. By ALFRED T. BAZIN, D. S. O., M. D., Assistant Professor of Surgery and Clinical Surgery, McGill University, assisted by F. A. C. SCRIMGER, V. C., B. A., M. D., F. J. TEES, M. C., B. A., M. D., L. H. McKIM, M. D., I. McL. THOMPSON, B. Sc., M. B., Ch. B. (Edin.), of the Departments of Surgery and Anatomy, McGill University. Montreal. Renouf Publishing Company. 25 McGill College Avenue. 1923. 126 pages. 12mo. Cloth. Price, $2.50 post prepaid.

International Clinics. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles on all branches of medicine and surgery, by Leading Members of the Medical Profession Throughout the World. Edited by HENRY W. Cattell, A. M., M. D., Philadelphia, with a number of collaborators. Volume III. Thirty-fourth series, 1924. Philadelphia and London. J. B. Lippincott Company. 1924. 8vo. 304 pages. Cloth.

Fundamentals of Human Physiology. By R. G. PEARCE, B. A., M. D., Formerly Director Medical Research Laboratory, Lakeside Hospital, Cleveland, O., and J. J. R. Macleod, M. D., D. Sc., F. R. S., Professor of Physiology in the University of Toronto, Toronto, Canada. Assisted in the Third Edition by DR. NORMAN B. TAYLOR. Third Edition. St. Louis. The C. V. Mosby Company. 1924. 349 pages. Cloth, 8vo. Price, $3.50.

XUM

Proceedings of Societies

MEDICAL SOCIETY OF VIRGINIA

Tuesday, October 14.

The fifty-fifth annual meeting of the Medical Society of Virginia was called to order in Beverley Theater, Staunton, Va., Tuesday evening, October 14, 1924, at 8 P. M., by Dr. Alex. F. Robertson, Jr., chairman of the Local Committee on Entertainment. Invocation was offered by Rev. J. Lewis Gibbs, of that city, following which an address of welcome, on behalf of the city, was made by Hon. Herbert McKeldon Smith, Mayor of Staunton.

In the absence of the President, Dr. W. W. Chaffin, of Pulaski, the first Vice-President, Dr. Hunter H. McGuire, Winchester, was introduced and took the chair. In lieu of an address, Dr. McGuire made a few appropriate remarks and, with the house standing, read the following telegram, which the secretary was authorized to transmit to Dr. Chaffin:

At its opening session, The Medical Society of Virginia sends you affectionate greetings. The splendid work you have done for the organization during the past year and the high esteem in which you are held by your fellow-members, only tend to accentuate the deep feeling of regret experienced at your absence. In conveying to you expressions of our deepest sympathy, we cherish the hope that you will soon be restored to health and be permitted to continue the unselfish work which has always distinguished your professional career.

HUNTER H. MCGUIRE, *First Vice-President.*

In the absence of the chairman or any member of the Necrological Committee, Dr. W. M. Phelps, Staunton, then observed Memorial Hour by reading names of the following members whose deaths had been reported since our last meeting:

Dr. W. L. Hudson, Luray.
Dr. B. S. Dobyns, Fries.
Dr. W. H. Thomas, Steeles Tavern.
Dr. Robt. Graham Wiatt, University.
Dr. Henry Samuel Myers, Forks of Buffalo.
Dr. Nicholas Perkins Oglesby, Dublin.
Dr. Charles Wesley Astrop, Surry.
Dr. John Clancy Parish, Smithfield.
Dr. James Harvey Bogle, Sebring, Fla.
Dr. Edgar Waples Robertson, Onancock.
Dr. Albert Chapman Lancaster, Martinsville.
Dr. Frank Waters Hains, Petersburg.
Dr. Claybrook Fauntleroy, Dragonville.
Dr. Paulus Fitz James Miller, Va. Beach.
Dr. Henry Dorrance Beyea, Ware Neck.
Dr. William Fewell Merchant, Manassas.
Dr. Edward Julian Moseley, Richmond.
Dr. William S. Gordon, Richmond.
Dr. Hugh Benjamin Mahood, Emporia.
Dr. Edward Alex. Hatton, Portsmouth.
Dr. John Peebles Proctor, Athens, Ga.
Dr. Henry Harrison Jones, Doe Hill.
Dr. Samuel S. Simpson, Clarendon.
Dr. Alvah Stoakley Hudson, West Point.
Dr. James H. Jones, Blackstone.
Dr. James White Cummings, Abingdon.
Dr. Samuel Wilson Hobson, Newport News.
Dr. Charles Holdsworth Barlow, Portsmouth.
Dr. George Russell Cottingham, Remington.
Dr. Joseph Thomas Davis, North Emporia.

Report of the Executive Council was next called and was presented by Dr. Lawrence T. Price, Richmond, Clerk of the Council. This was referred to the House of Delegates.

The only other report presented the first night was that of the delegates to the American Medical Association, which was read by Dr. Southgate Leigh, Norfolk, and also referred to the House of Delegates.

Next on the program was a talk by Mr. Howard McManaway, Superintendent of the Virginia School for Deaf and Blind, who explained the object of the school and the various degrees of deafness. Two of the teachers and several of the pupils gave an excellent demonstration of how the children are trained, the results being attested by the work of the children who assisted. This proved a most interesting feature of the meeting and gave the audience a clearer conception of the wonderful work done at the institution.

The scientific program was then taken up and several papers presented.

Wednesday, October 15.

The House of Delegates held its first meeting at 9 A. M., October 15, in a room set aside at Hotel Stonewall Jackson and this was followed by the first meeting of the Executive Council. (Reports of all meetings of the House and Council follow, beginning on page 510).

At 10 A. M., there was a general meeting of the Society at which Dr. R. Bruce James, Danville, second Vice-President, presided. Following clinical case reports, papers were read in the symposium on "Endocrinology." These were freely discussed and, with the discussions, will appear in an early issue of the journal,

as also will papers read at other sessions.

The Woman's Auxiliary to the Medical Society of Virginia met at Hotel Stonewall Jackson at 10:30 A. M., October 15, with Mrs. R. Lloyd Williams, Norfolk, presiding (Report appears on page 516).

Afternoon and night sessions on Wednesday were held in Medical and Surgical sections, Dr. H. H. McGuire, First Vice-President, being assisted in presiding by Dr. R. B. James and Dr. O. T. Amory, Second and Third Vice-Presidents, respectively.

At a meeting of one of the Surgical sections, Dr. S. S. Gale made a motion, duly seconded and carried, that the Surgical section instruct its chairman to appoint a committee of three to bring Dr. Murat Willis' paper on "Why the Increasing Mortality in Appendicitis?" before the Medical Section and the public in a general meeting of this session. The following committee was named by the chairman: Dr. Murat Willis, Chairman; Dr. Stuart McGuire and Dr. H. H. Trout. (As this notice was received so late, it will be referred to the first meeting of the Executive Council for action).

Dr. Olin West, Secretary of the American Medical Association, paid our Society an informal visit on Wednesday, en route to Atlantic City, and spoke before the sections. A called meeting of the House of Delegates was also held at 8 P. M. that evening, that its members might have the pleasure of hearing from Dr. West.

Following this meeting of the House of Delegates, the Executive Council held its second regular meeting.

Thursday, October 16.

The House of Delegates held its last meeting on Thursday, October 16, at 9 A. M., while the scientific papers were being read before Medical and Surgical sections. The report of this meeting of the House was read before a general meeting of the Society, called by special order, at noon that day, and was adopted as amended.

The afternoon was given over to a trip to the Grottoes of the Shenandoah and automobile rides to places of interest in that section, both the ladies and the doctors participating in this pleasure. That night a general meeting was held at Staunton Military Academy, following an elaborate supper tendered the members of the Society and the ladies accompanying them. The speakers on this occasion were our invited guests: Dr. Albert J. Ochsner, Chicago; Dr. John Osborn Polak, Brooklyn, and Dr. Daniel A. Orth, Chicago. These papers showed much study and were well received.

Friday, October 17.

The closing day of the meeting, it was decided to hold one general session instead of having Medical and Surgical sections as had been arranged on the program.

During the meetings, telegrams were received and read from the President, Dr. W. W. Chaffin, the Southern Medical Association, and several members.

Upon completion of the scientific program, under "Unfinished business," a report was read from the Membership Committee, recommending ten doctors for active membership and one for associate membership. These doctors are from localities in which there are no active component societies. Moved, seconded and adopted that this report be accepted.

Upon motion duly seconded, Dr. W. W. Chaffin, the retiring President, was elected to honorary membership.

A resolution was offered expressing thanks to the city of Staunton, the Augusta County Medical Association, the management of Hotel Stonewall Jackson (headquarters of the meeting), the Staunton Military Academy, the Mary Baldwin College, and Stuart Hall for the splendid entertainment extended the members of the Medical Society of Virginia and their ladies. Seconded and carried.

In the absence of other retiring officers, Dr. Hunter H. McGuire introduced himself as president-elect in the following speech:

In thanking you for this honor, the greatest gift which the medical profession of Virginia can bestow, I am deeply sensible of the responsibilities involved in the conduct of this high office and can only assure you that it will be my constant endeavor to advance the work of this great organization with the same degree of earnestness and enthusiasm which has been shown by my distinguished predecessors in office.

I like to feel that your action has been prompted by a desire, on the part of this Society, to give recognition to the great advances which have been made in that branch of medicine I have the honor to represent. I think you will agree with me that in recent years ophthalmology has been keeping pace with the wonderful strides of internal medicine, surgery, and the other specialties represented in this organization. Though fully alive to the importance of special development, it no longer casts its lines in narrow channels but is increasing its range of action in co-operation and in association with the great system of medicine of which it forms an

XUM

important part. For the second time in your history, you have honored a representative of ophthalmic science with the presidency of this Society. Fully aware of the grave responsibilities involved, and pledging the best service in my capacity, I accept the office and trust that your confidence has not been misplaced.

There being no further business, the fifty-fifth annual meeting of the Medical Society of Virginia adjourned.

REPORT OF DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION.

The Seventy-Fifth Annual Session of the American Medical Association, held in Chicago, June 9th to 13th, eclipsed in attendance all former meetings, there being more than ten thousand present, including families of doctors.

As far as possible in such a large city, the activities were grouped in a comparatively small area, the headquarters hotel, the meeting place of the various scientific groups and the place for business meetings, being in easy distance of each other and on or near the Lake Front.

Registration, exhibits of all kinds, and scientific sessions, were all of them held on one floor of the huge municipal pier.

All business affairs were conducted in the association's own magnificent seven-story, fireproof building, which occupies a site one hundred by one hundred and sixty feet, on a prominent corner. In this building has been developed one of the most perfect modern and effective establishments in the world.

The splendid success of the A. M. A., both scientifically and financially, has been due largely to the untiring efforts of Dr. Geo. H. Simmons, Editor and General Manager, who has this year retired and been given an honorary position with salary. Many tributes were paid by the delegates and fellows to the wonderful accomplishments of Dr. Simmons.

Dr. Olin West becomes acting General Manager, Dr. Morris Fishbein acting Editor and Mr. Will C. Braun acting Business Manager.

In reference to the Scientific work of the session, it would be impossible for your delegates to do more than refer you to the pages of the Journal. The meetings were productive of great good for the profession and the public, which will be of far-reaching effect.

We are much pleased to report that the Chairman of the Council on Scientific Assembly is one of our honored members, Dr. J. Shelton Horsley. His splendid efforts in the arduous work of the Assembly, not only this year, but for several years past, have been deeply appreciated and applauded by the Association, and have reflected on himself and his State the highest possible credit.

The work of the House of Delegates has each year steadily increased, until now the major part of the time of the Delegates is consumed either in the business meetings or in the various committees.

Many matters of great importance were considered, and much good accomplished.

Your delegates would again urge a closer affiliation between the Medical Society of Virginia and the National Organization, and a larger attendance of our members on the annual meetings.

We are proud to record that our State Association is one of only six in the Union that employs a full time secretary.

We are, however, considerably below the average in the number of our local societies. Your delegates believe that Virginia will never reap the full benefits of Medical Organization until practically all of our counties are organized. It is interesting to note that our sister State, Alabama, has 100 per cent organized.

In most states, each Councilor is responsible, with the Secretary, for the organizing and functioning of each component society in his district.

At the request of the University of Virginia, transmitted through your delegates, the conflict in time of meeting between the A. M. A. and the commencements of the various Medical Schools, will hereafter be avoided when possible.

The Veterans Bureau has agreed to discontinue the so-called education of Veterans in Chiropractor Schools.

A Bureau of Health and Public Instruction has been organized with Dr. Dodson as its Executive head, and is doing effective work.

The Judicial Council, in commenting on its investigation of reported instances of "fee-splitting," condemned this pernicious practice and urges component societies and State Associations to purge their membership of any who willfully refuse to desist from such practice, the continuance of which can only bring dishonor and reproach on the Medical Profesion.

The Council also gave its definition of the

term "Sectarian," as "one who in his practice follows a dogma, tenet or principle based on the authority of its promulgator to the exclusion of demonstration and experience."

President-Elect Pusey, in his address, vigorously discussed the present trend in Nurse Education and Service, and in Medical Education. Both of these matters were referred to the Council on Medical Education and Hospitals, where the subjects have previously been given a great deal of careful investigation.

During the meeting much thought and discussion were bestowed on these weighty matters.

It is recognized that the cost of the present high-class training of nurses, and the consequent cost of nursing for the sick, is so great that a very large part of our population is without such important care. On the other hand, there is no desire to lower the standard of nurse education. Some plan will probably be worked out so as to furnish nurse attendants at a moderate cost and continue the regular nurse education on the present high scale.

We meet with a still greater problem in Medical Education, which admittedly is requiring too many years, including grammar school, college, medical course and hospital.

One of your delegates introducted a resolution suggesting a Commission, composed of representatives of each of these departments of education, to study the question and find some way to cut down the required number of years.

A medical man should be able to begin the practice of his profession earlier than his twenty-eighth year, which is now the average.

Dr. Pusey suggests that the medical course be cut to three years with an additional required year in an approved hospital.

He also discussed, in a most attractive manner, the idea that medical instruction is including many subjects which properly belong to the specialist, and suggested the advisability of an advanced degree for specialists.

The House of Delegates took a most decided stand on the question of prescribing liquor in sickness and passed unanimously two resolutions, the first calling upon the Government to carry out the spirit of the 18th Ammendment by permitting reputable doctors to prescribe whatever amount of alcoholic liquor may be needed in sickness; and the second, calling upon the state and local societies to severely condemn illegal prescribing of liquor. The Government was also asked to provide safe liquor for prescription use.

The most important matter brought before the House was a special report of the Judicial Council, referring to so-called Life Extension Institutes. The subject was considered by the Committee of the Whole, and took up an entire afternoon. It developed that certain commercial organizations have built up a large and very lucrative business and made use of many members of the profession who have given their aid unwittingly to the plan. These companies pay the physician a definite price and then sell the result of the examination to the individual at a much higher price. In other words, the companies acting as jobbers, buy the physician's service at one price and sell to the public at another.

The House severely condemns the arrangement, advised the profession against aiding these commercial concerns and urged that the various state and local societies take steps at once to inform the public as to the great importance of periodical health examinations, made by *their regular physicians.*

In reference to the splendid publication, "Hygeia," the House reported as follows: "For years, the members of the American Medical Association have sought means of conveying to the lay public news concerning the best efforts of our organization in behalf of preventive medicine. The members of our Association have long wished for a publication that might be circulated among laymen, contrasting in its columns, in a dignified manner, the efforts of organized medicine to improve public health, as compared with the practices adopted by cults and quacks. Such a publication was inaugurated by the Association in 1922, and despite the splendid results attained by its editorial board and the great energy expended in attempting to extend its circulation, we note with regret that approximately only 14,000 physicians have today availed themselves, by subscription, of the opportunity to place this magazine in the hands of lay readers."

Your delegates were informed that "Hygeia" is costing about $90,000 to publish and that there is a net loss annually of $39,000. There is no thought on the part of the management to discontinue this most useful publication, but we are urged to ask the active co-operation of the State Association and the local societies

XUM

in rapidly extending its subscription list and usefulness.

This report would be incomplete without reference to the Woman's Auxiliary of the A. M. A., which had a most enthusiastic meeting, appeared before the House of Delegates through the person of its charming President, Mrs. S. C. Red, of Texas, and showed innumerable signs of its active and effective co-operation with the medical profession of the whole country.

Dr. Haggard, of Nashville, was elected President of the A. M. A. for the coming term and Atlantic City was selected for the next place of meeting.

Respectfully,
SOUTHGATE LEIGH,
JOSEPH T. BUXTON,
EMORY HILL,
Delegates.

HOUSE OF DELEGATES.

The House of Delegates of the Medical Society of Virginia held its first meeting at Hotel Stonewall Jackson, Staunton, Va., at 9 A. M., October 15, 1924. The meeting was called to order by the First Vice-President, Dr. Hunter H. McGuire, of Winchester. Thirty-two delegates and fourteen councilors responded to roll call.

The Reports of the Secretary-Treasurer were read and ordered received and filed.

Report of Secretary.

Membership at time of last annual meeting	1,777	
New members since last meeting	112	
Members reinstated	14	
Total		1,903
Deaths	30	
Resignations	13	
Dropped as lost or for non-payment of dues	21	
Losses		64
Net total		1,839

We have been advised during the year of meetings of the Executive Council, Legislative and Publication Committees.

One of our delegates to the last meeting of the American Medical Association, Dr. J. Allison Hodges, was unable to attend on account of illness and the President, Dr. Chaffin, appointed Dr. Emory Hill, as alternate, none of the regular alternates being able to go.

At its meeting last June, the American Medical Association made a reapportionment of delegates from the State Societies to its House of Delegates, on the basis of one delegate for each 950 members or fraction thereof. We are advised that Virginia will be entitled to two instead of three delegates in the House of Delegates of the A. M. A. at its 1925 meeting. It is quite probable a new apportionment of delegates may be effected at the 1925 meeting and it is hoped we may secure a larger representation at that time.

During the year, we paid a fee in defense of a doctor against whom suit was brought for alleged civil malpractice and assisted Northampton County Medical Society in prosecuting a chiropractor charged with practicing medicine without a certificate from the State Board of Medical Examiners.

We have been advised of the organization of the Hanover County Medical Society, which wishes to secure a charter from the State Society at this meeting, and have also been advised of the reorganization of three county societies.

In response to notices sent presidents and secretaries of the various component societies, forty have advised us names of delegates to attend this meeting. This shows a fair degree of interest on the part of the societies, but there is lack of co-operation on the part of some. I would suggest that a visit from each councilor to the various societies in his district during the course of the year may be of assistance in arousing enthusiasm among the members.

The membership of several members residing in Bristol, on the Tennessee side of the State line, was questioned by the A. M. A., it being stated that they should be affiliated with the Tennessee rather than the Virginia Society. This was referred to the chairman of the Membership Committee and it was decided we would take no action in the matter as the members in question are in good standing in the Medical Society of Virginia.

It was with regret we learned a week ago that our President, Dr. Chaffin, on account of personal illness, would be unable to attend this meeting. He designated the first Vice-President, Dr. Hunter McGuire, of Winchester, as presiding officer.

We appreciate the co-operation which has been shown by a large number of our members and hope others will fall in line and assist in making this a bigger and better society.

Report of Treasurer.

This report is for only nine and a half months, the fiscal year closing December 31, 1924.

Balance in bank, Jan. 2, 1924		$2,081.42
Total receipts for nine and a half months. (Jan. 2, 1924-Oct. 13, 1924)	$ 13,152.37	
Total disbursements, Jan. 2, 1924-Oct. 13, 1924	11,017.97	
Balance for nine and a half months		2,134.40
Total in hand Oct. 13, 1924		$4.215.82

Receipts

Virginia Medical Monthly		
Advertising	$ 6,003.74	
Subs., non-members	148.40	
Subs., members ($2 each)	2,646.00	
Int. on bank balances	40.19	
Sundries	105.79	
		8,944.12
Medical Society of Virginia		
Dues less $2 from each member for journal	$ 3,959.00	
Int. on bank balances	40.18	
Sundries	209.07	
		4,208.25
		$13,152.37

Disbursements

Virginia Medical Monthly		
Preparation of journal	$ 6,253.85	
Salaries	1,420.00	
Postage	241.63	
Sundries	347.48	
		$ 8,262.96
Medical Society of Virginia		
Salaries	$ 1,420.00	
Postage	203.17	
Legal defence and Legs. Com.	411.00	
Sundries	720.84	
		2,755.01
		$11,017.97

AGNES V. EDWARDS, *Sec'y-Treas.*

The report of the Executive Council was read and ordered received and filed.

Executive Council

The Executive Council of the Medical Society of Virginia held a meeting in the Society's offices January 22, 1924, it having been found necessary to call a meeting at this time to secure the influence of its members, as representing all sections of the State, in opposing the bill presented by Senator Holt. The purpose of this bill was to impose on doctors a tax similar to the one which was repealed several years ago.

Present: Dr. R. L. Williams, chairman; Dr. L. T. Price, clerk; Drs. W. W. Wilkinson, Isaac Peirce, A. L. Gray, Thos. G. Hardy, F. H. Smith and P. K. Graybill, and Dr. Stephenson, chairman of the Legislative Committee of the Society. Most of the absent members of the Council explained by wire, letter and phone their inability to attend.

Dr. Williams explained the purpose of the meeting and stated that it would be necessary to have the co-operation of the doctors by actual presence before the respective finance committees, if they wished to accomplish anything.

Dr. Stephenson, as chairman of the Legislative Committee, was asked to tell what his committee was doing and told of a meeting held on the 11th, at which a suggestion was made of recommending a registration annually by each doctor and the payment of a registration fee as a substitute for the license tax, as replacing this tax on doctors would be a step backward. He stated that in this fight to keep the tax from being imposed on doctors, the Legislative Committee would need the financial end cared for as well as they would need to have the moral support of the doctors.

The members present were then called on individually for an expression of opinion. They did not think it necessary to offer any substitute measure, such as the annual registration of doctors, but to make a strong fight against the bill proposing the imposing of a license tax on doctors. Dr. Wilkinson said he saw no reason why there should be class legislation; doctors are fighting their own interests all the time in trying to improve health conditions in the State. The individual is profiting by the doctor's work in that he is constantly assisting the State and county health authorities to improve health conditions. He suggested that the councilors should get in touch with the presidents of the county organizations in their districts and get all the doctors to use their influence in fighting this bill. He stated that he was also much interested in the bill which is to come up which will greatly hamper doctors in rural communities in the dispensing of drugs. All the doctors spoke along these same lines and said they voiced the sentiments of the doctors in their sections of the State in opposing this bill; in spite of the fact that there are some doctors who would rather pay the license tax than to have the bother of fighting it.

Dr. Peirce moved that the Council draw up a resolution to present in person to the finance committees of the House and Senate, opposing replacing the license tax on doctors. This was seconded and adopted and a committee was appointed, composed of Dr. Peirce as chairman and Drs. Wilkinson, Gray and Price and Dr. Stephenson of the Legislative Committee, which drafted and presented the following resolution:

WHEREAS, It has been only a few years since the medical profession of Virginia brought before the legislative bodies of the State such overwhelming evidence that a special license tax on physicians and surgeons was wrong in principle, unjust to the profession, and opposed to the interests of the State, causing the repeal of the law levying such tax; and

WHEREAS, Conditions have not changed since the repeal of this law, except that any income arising from the practice of medicine is taxed by both State and Federal governments, so that the same arguments used to secure the repeal of this law remain in force and should operate to prevent its re-enactment; and

WHEREAS, We, the Executive Council of the Medical Society of Virginia, representing the medical profession of the State, are unanimous in the opinion that the levying of a special license tax would be returning to methods of raising revenue long since proven to be opposed to sound public policy;

THEREFORE, BE IT ENACTED, That the Medical Society of Virginia ask both branches of the State Legislature to see to it that Senate Bill No. 53 does not pass.

ISAAC PEIRCE,
Chairman Committee from Executive Council, Medical Society Virginia.

It was also moved and seconded that the members present get in touch with the absent councilors and with representatives of the county societies and have them send telegrams and letters to their constituents urging them to use their influence and to vote against having a tax imposed on doctors. A message was prepared which met with the approval of those present and was sent as night letters to forty-nine doctors representing all sections of the State.

Dr. Price presented the recommendation made by the Legislative Committee that an appropriation be made by the Society to pay $300 to Dr. Stephenson, chairman of the Legislative Committee, for his service during the present Legislature and that other members of the Legislative Committee should be reimbursed by the Society for their actual expenses in attending the meeting of the Committee on January 11.

It was moved and seconded that this be adopted.

It was also unanimously adopted that the Society should reimburse the members of the Council in attendance for their actual expenses in attending the meetings and also that it should bear the cost of the telegrams and night letters incident to getting in touch with the doctors back home.

It was moved and seconded that the dates of the Staunton meeting of the Society be set as October 14-17, 1924, inclusive. Carried.

It was unanimously decided that the chairman appoint a committee of three to pass on the proceedings of the Publication Committee of the Society after

they select a subject and leaders for a symposium for the Staunton meeting.

A letter was read from Dr. Olin West, secretary of the American Medical Association, asking that action be taken by our Society in the matter of the membership of several doctors who reside in Bristol, Va.-Tenn., who, through membership in the Sullivan-Carter-Johnson (Tenn.) Medical Society hold membership in the Tennessee State Medical Association and the American Medical Association. It is a violation of the constitution and by-laws of the two state medical associations and not in keeping with the provisions of the constitution and by-laws of the American Medical Association.

It was decided that the secretary should get in communication with the individual doctors, find out in which state they hold citizenship and practice and their individual wishes in the matter and advise Dr. West that this matter would be referred to the chairman of our Membership Committee as soon as we could ascertain the doctors' wishes in the matter.

Adjourned.

LAWRENCE T. PRICE, *Clerk.*

The report of the Legislative Committee, embodied in a letter from its Chairman, Dr. H. U. Stephenson, to the President, Dr. W. W. Chaffin, was read and ordered received and filed.

Report of Legislative Committee

Richmond, Va.,
Oct. 6, 1924.

Dr. W. W. Chaffin,
President, Medical Society of Virginia,
Pulaski, Va.

My Dear Dr. Chaffin:

I herewith submit the report of the Legislative Committee:

Nothing of any importance came up for consideration by the Committee during the year except matters that were presented to the last Legislature for consideration.

At the beginning of the session of the last General Assembly, a bill was introduced in the House and the Senate, reimposing a license tax on doctors; also two bills were introduced by the chiropractors establishing a special Board of Examiners for that particular cult. As soon as I heard that these bills had been introduced I called together the members of the Legislative Committee, the President of the Medical Society and several members of the Council, and invited the presidents of the various colleges of the State.

A conference was held to secure the indorsement of the medical profession and of the representatives of the leading schools of liberal arts in upholding the high standard of the medical profession in the State of Virginia. This proposition met with the hearty approval of all present, the general opinion being that every effort should be made to advance the standard in the State rather than to permit it to be lowered. The lowering of the standards could not be permitted as it might react on schools giving the pre-medical courses and cause the young men of the state to go to schools in other states for their medical training.

After the Conference, the Legislative Committee organized for an active fight against the reimposing of a license tax on doctors and against the Legislature creating a special Board of Examiners for the chiropractics.

I am pleased to report that our work was most successful in defeating all three bills. I have been connected with the Legislative Committee of the Medical Society for more than fifteen years, during which time we have had a number of hard battles to fight before the Virginia Assembly, but never in my experience have I known the medical profession to rally to the assistance of the Committee as they did during the last Legislature, and it was due largely to the individual members of the profession that we were able to defeat the reimposing of the tax on doctors and the creating an independent Examining Board for the chiropractors. The Richmond, Newport News and Norfolk doctors were especially active during the fight. I believe the doctors of the State are today lined up better for legislative work than ever before.

On behalf of the Committee, I want to thank the Presidents of the various schools of liberal arts of the State and the members of the medical profession for their loyal support and for the good work rendered in our fight during the last session of the Legislature.

Yours very truly,

H. U. STEPHENSON,
Chairman Legislative Committee of the Medical Society of Virginia.

The practice of chiropractic referred to in this report was discussed at length. It was pointed out that through the efforts of the Medical Society of Virginia, three bills drafted by chiropractors were defeated in the State Legislature. It was stated that the cities of Richmond and Norfolk had passed city ordinances prohibiting chiropractors practicing in these cities without complying with the laws of the State of Virginia, as embodied in Section 1618, Code of Virginia, 1916, and, on motion unanimously supported, the Secretary of the Society was instructed to transmit to the proper authorities of these two cities the approval by the Medical Society of Virginia of the action taken by them in this matter.

The question of physicians registering their diplomas with the Clerk of the Court of the county in which they expect to practice was brought up by Dr. J. A. Hodges, of Richmond. He stated that five years ago all physicians were required to register, but since then the law has not been enforced and recent graduates from medical colleges are practicing without having registered. On motion of Dr. A. L. Gray, of Richmond, the matter was referred to the State Board of Medical Examiners with a recommendation that there be printed on each certificate a statement that the certificate must be registered with the Clerk of the proper Court before the physician could legally practice.

In the absence of Dr. Wm. F. Drewry, Chair-

man of the Judiciary Committee, no report was received from this committee.

In the absence of Dr. Alex. G. Brown, Jr., Chairman of the Publication Committee, Dr. A. L. Gray, a member of the Committee, stated that while he had no report, the work of the Publication Committee was evidenced by an inspection of the journal and the report of the Treasurer as to its financial condition.

The report of the delegates to the American Medical Association was next called for. In the absence of Dr. Southgate Leigh, of Norfolk, who presented the report at the opening meeting of the Society, Dr. J. A. Hodges spoke of the excellent report made by Dr. Leigh and stated that it embodied many important matters which he thought should have the consideration of the Executive Council. It was recommended, therefore, that it be brought to the attention of the Council at a later meeting.

A telegram was read from Mr. D. P. Wine, Secretary of the Shenandoah Valley, Inc., extending a cordial welcome to the members of the Society and offering the visitors any aid possible to see the points of interest in the Valley.

Several communications were read, as follows:

From Dr. W. C. Woodward, Executive Secretary of the Bureau of Legal Medicine and Legislation of the American Medical Asocciation, asking the advisability of supplementary action by our Society of several measures which have received the approval of the House and Board of Trustees of the A. M. A. It was recommended that this be referred to the Executive Council.

From the Virginia Pharmaceutical Association resolutions relative to the seemingly unwarranted issuing of liquor prescriptions by some of the physicians of the State. It was recommended that this be received and filed.

From Dr. W. Moore Thompson, Chicago, a request for information about doctors in this State who would be entitled to notice in a book he is compiling on the subject, "The Doctor in Other Fields." This was ordered to be received and filed.

From the chairman of the Committee on Maternal Welfare of the American Association of Obstetricians, Gynecologists and Abdominal Surgeons an appeal for the co-operation of our State Society in an endeavor toward improving conditions in obstetrics throughout the country. This, too, it was recommended, should be received and filed.

From the Secretary of the Danville Academy of Medicine, a request for opinions on certain matters pertaining to quarantine in scarlet fever. It was recommended that this be referred to the State Board of Health.

From a component society, information that one of its members had been expelled because he was using Abrams electronic machines. It was ordered that this be turned over to the Judiciary Committee for action.

It was noted that there were in hand several applications for membership in the State Society from doctors living in localities in which there are no active component societies. The secretary was instructed to refer these to the Membership Committee for action.

There being no further business, the House adjourned to meet Thursday morning, October 16, 1924, at 9 A. M.

EXECUTIVE COUNCIL.

The first meeting of the Executive Council of the Medical Society of Virginia was held October 15, 1924, at 10 A. M.

Present:

Dr. R. L. Williams, Chairman.
Dr. Isaac Peirce.
Dr. Hugh H. Trout.
Dr. Walter B. Martin.
Dr. C. P. Jones.
Dr. A. L. Gray.
Dr. Thos. G. Hardy.
Dr. J. A. Shackelford (alternate for Dr. D. H. Mason).
Dr. Hunter B. Spencer.
Dr. R. L. Page.
Dr. S. B. Moore (alternate for Dr. Hugh McGuire).
Dr. Francis H. Smith.
Dr. M. T. McCulloch (alternate for Dr. P. K. Graybill).
Dr. L. T. Price, Clerk.

Dr. Price suggested the question of having joint sessions of the Medical Society of Virginia in the future, which was discussed by members of the Council.

Motion by Dr. A. L. Gray, that in the future the program be limited to fifty selected papers. The manner of selecting will be by the first fifty titles received. Seconded by Dr. Peirce. Carried.

Dr. Gray called the attention of the Coun-

XUM

cil to the enormous amount of work done in the Secretary's office and recommended that an additional appropriation be made to take care of the situation. Dr. Gray made a motion that $1,000 per annum be appropriatel for that purpose. Seconded by Dr. Jones. Carried.

Respectfully submitted,

LAWRENCE T. PRICE, *Clerk.*

HOUSE OF DELEGATES

Owing to the unexpected attendance of Dr. Olin West, Secretary of the American Medical Association, there was a called meeting of the House of Delegates of the Medical Society of Virginia on Wednesday evening, October 15, at 8 P. M., at which time Dr. West was asked to make an informal talk before this body. The Second Vice-President, Dr. R. B. James, Danville, presided. A quorum being found present, the calling of roll was dispensed with.

Dr. West gave an interesting and highly instructive talk on the activities of the American Medical Association, the various State societies, and medical organization work generally. He stated that the great age of some societies and their flourishing condition evidenced the success to be accomplished by organization.

He told of Hygeia—the health magazine for laymen, published by the A. M. A.—and of the interest manifested in it in some sections. He suggested that it was the doctor's privilege to direct the minds of his clientele in the right paths in regard to health matters and that it is his opinion that much more can be accomplished by properly educating the layman than by fighting the cults.

Having been a state officer prior to his connection with the national association, Dr. West is exceptionally well qualified to give wholesome advice to the governing bodies of state organizations, which he did on this occasion in a most tactful and instructive manner.

This being the only business before the House, the meeting adjourned.

EXECUTIVE COUNCIL.

The second meeting of the Council was held at 9 P. M., October 15. All members being present, the chairman proceeded with the nominations for officers of the Society for the ensuing year, as follows:

Dr. H. H. McGuire, nominated by Dr. Jones, seconded by Dr. Smith, for President. Nominations closed and Dr. McGuire was unanimously elected by acclamation.

For First Vice-President, Dr. R. P. Bell, nominated by Dr. Shackelford, seconded by Dr. Price. Unanimously elected.

For Second Vice-President, Dr. L. E. Stubbs, nominated by Dr. Page, seconded by Dr. Shackelford. Unanimously elected.

For Third Vice-President, Dr. J. Bolling Jones, nominated by Dr. Wright, seconded by Dr. McCulloch. Unanimously elected.

For Secretary-Treasurer, Miss Agnes V. Edwards, nominated by Dr. Peirce, seconded by Dr. Smith. Elected by rising vote.

All members of the standing committees were re-elected with the exception of Dr. C. H. Rolston, member of the Legislative Committee, who is not now a member of the Society, and Dr. J. Shelton Horsley was elected to his place.

A communication referred by the House of Delegates from the Bureau of Legal Medicine and Legislation of the American Medical Association, pertaining to certain bills before the Senate of the United States regarding labeling of poisonous commodities, etc., was read, discussed and, on motion made by Dr. Gray and seconded by Dr. Moore, it was recommended that the Medical Society of Virginia place itself on record as approving the steps taken by the executive secretary of the Bureau of Legal Medicine and Legislation of the American Medical Association. Carried.

Dr. Southgate Leigh, one of our delegates to the American Medical Association meeting in Chicago, made a detailed report of the discussions during the meeting. The Council wishes to recommend to the House of Delegates that the Medical Society of Virginia go on record as disapproving the so-called "Life Extension Institute Bureaus," now being operated throughout the country and recommends that the Medical Society of Virginia, through its various channels, carry out an educational campaign for the promotion of periodical health examinations by the family physician. Dr. Gray made a motion to that effect, seconded by Dr. Moore; unanimously carried.

Dr. A. L. Gray read a letter from Dr. J. A. Wright, of Doswell, Va., who, with others, desired information regarding the organization of the Hanover County Medical Society. As it is at the present time, the physicians of Hanover County are members of the Richmond

Academy of Medicine. A ruling by the chair was to the effect that Dr. Wright be communicated with by the Secretary, to the effect that the proper course of procedure is for the Richmond Academy of Medicine to change its constitution to the effect of eliminating the physicians in Hanover County. Then the Hanover County Medical Society should make application to the Executive Council for a charter, which would be granted.

Dr. F. H. Smith called attention to the condition in Southwest Virginia regarding organization of societies. On motion by Dr. Price, seconded by Dr. Peirce, it was stated that it was the sense of the Council that the Councilor of the Ninth District be requested to exercise all effort to organize the physicians of Giles, Tazewell, Russell, Scott, Wise, Lee, Dickenson and Buchanan Counties into one organization and that Bland, Carroll and Grayson Counties be organized with the Southwestern Virginia Medical Society. Carried.

Respectfully submitted,

LAWRENCE T. PRICE, *Clerk.*

HOUSE OF DELEGATES

The House of Delegates of the Medical Society of Virginia met Thursday morning at 9 A. M., Dr. R. B. James, Second Vice-President, presiding.

Upon roll call a quorum was found present.

Reports of the first regular meeting and a called meeting of the House of Delegates were read and received as corrected.

Reports of the two meetings of the Executive Council were read and received as corrected.

At the first regular meeting of the Council it was recommended and carried, that in the future the program be limited to fifty papers. This recommendation was freely discussed and was amended to read, the program shall be limited to fifty selected papers.

Recommendation No. two, that in the future the Society should have joint sessions instead of medical and surgical sections. After free discussion, this was adopted after being amended that joint sessions are to be held if considered practicable by the Publication Committee.

Recommendation No. three was made, that, owing to the enormous amount of work done in the secretary-treasurer's office, an additional appropriation be made for assistant's salary, increasing same from $800 to $1,000 per annum. Adopted.

In accepting Dr. Leigh's report from the delegates to the American Medical Association, the House went on record as disproving the so-called Life Extension Institute Bureaus now being operated throughout the country, and recommended that the Medical Society of Virginia, through its various channels, carry on an educational campaign for the promotion of periodical health examinations by the family physician.

The following nominations for officers and standing committees were voted on collectively and adopted: President, Dr. Hunter H. McGuire, Winchester; First Vice-President, Dr. R. P. Bell, Staunton; Second Vice-President, Dr. L. E. Stubbs, Newport News; Third Vice-President, Dr. J. Bolling Jones, Petersburg; Secretary-Treasurer and Business Manager, Miss Agnes V. Edwards, Richmond.

All members of the standing committees were re-elected with the addition of Dr. J. Shelton Horsley as a member of the Legislative Committee to replace a former member, not now a member of the Medical Society of Virginia.

Dr. J. Staige Davis, University, was nominated to fill the vacancy occurring among the councilors from the State-at-Large.

The nominations made for councilors in the following districts were approved: Second District, Dr. Israel Brown, Norfolk; Fourth District, Dr. W. D. Kendig, Kenbridge; Sixth District, Dr. T. A. Kirk, Roanoke; Ninth District, Dr. C. B. Bowyer, Stonega.

Dr. J. A. Hodges stated that Dr. J. N. Upshur and Miss Edwards had called attention to the fact that a Medical Society of Virginia was chartered in 1824 and, in view of this fact, he made a motion, which was duly seconded, that the time and place of the next annual meeting be left to the Executive Council to determine, that proper recognition might be given to this event, should the Council deem it advisable. In this case, Dr. Hodges suggested that the next meeting might be held in Richmond and be in the form of a professional exhibit of medical progress, celebrating the one hundred and first anniversary of the Medical Society of Virginia.

The above report was presented to the general meeting of the Society at a meeting held

XUM

by special order at noon, Thursday, October 16.

Dr. J. N. Upshur moved the adoption of the report as a whole. Seconded by Dr. Isaac Peirce.

Dr. Garnett Nelson offered as an amendment that the first recommendation, "the program be limited to fifty selected papers," be changed to read "the program shall be limited to the first fifty papers." Seconded by Dr. Beverley R. Tucker.

After the amendment to the recommendation was freely discussed, Dr. K. D. Graves moved that the formation of the program be left to the Program Committee. Seconded by Dr. T. G. Hardy.

Dr. C. M. Miller, further amended that the Program Committee formulate its own rules for making the program and announce them to the Society at its earliest convenience. This was accepted by Dr. Nelson and carried, the whole report being adopted as amended.

There being no further discussions, the meeting adjourned.

Immediately following the general meeting, the new Executive Council met and elected Dr. A. L. Gray, Richmond, Chairman, and Dr. L. T. Price, Clerk.

Meeting of Woman's Auxiliary to the Medical Society of Virginia, Staunton, Va., October, 1924.

The Woman's Auxiliary to the Medical Society of Virginia met in Staunton in connection with the Medical Society of Virginia, on Wednesday, October 15th, at 10:30 A. M., at the Stonewall Jackson Hotel. A good attendance was present from all parts of Virginia. The State President, Mrs. R. Lloyd Williams, of Norfolk, presided, and the meeting was opened with prayer by Mrs. A. L. Tynes of Staunton.

The address of welcome was made by Mrs. F. M. Hanger, the entertainment chairman, which was responded to by the president. The regular routine business was gone through with, and reports of various district chairmen were received, which were very encouraging, especially those from Norfolk and Richmond.

A very interesting report of the National Convention at Chicago was made by Mrs. Southgate Leigh, of Norfolk. This report outlined the work which may be done by the Auxiliary. The Auxiliary endorsed several matters of health improvement which are being put forward by the Medical Society for the betterment of mankind; and also expressed various ways by which conditions in jails, almshouses, etc., can be improved.

After the regular business session the election of officers was held, resulting in the following: Mrs. Hunter H. McGuire, Winchester, President; Mrs. J. Allison Hodges, Richmond, First Vice-President; Mrs. J. M. Shackelford, Martinsville, Second Vice-President; Mrs. T. J. Hughes, Roanoke, Third Vice-President; Mrs. H. T. Miller, Washington, Treasurer; Mrs. B. B. Dutton, Winchester, Secretary.

The Entertainment Committee provided the visiting ladies with a most enjoyable program while in Staunton. Wednesday afternoon, there was a delightful automobile trip through Waynesboro-Basic to the top of Shenandoah Mountain, from which the view in all directions is wonderful. In the afternoon a reception was tendered the guests at Mary Baldwin College. The visitors enjoyed the hospitality of this historical institution, and also the splendid musical program furnished by the girls in the school, after which a delightful salad course was served.

On Wednesday night the delegates attended a musical given at Stuart Hall. The numbers were rendered by the teachers of the school, and an evening of rare entertainment was enjoyed. The day's program ended with a buffet supper and dance at Stonewall Jackson Hotel.

Places of medical interest at Staunton, such as Western State Hospital, and the Institution for the Deaf and Blind were visited. The visit to the Grottoes, Thursday afternoon, was a real treat, and to those who had never visited this section of Virginia, the drive from Staunton to the cavern was one of such scenic beauty that it will be long remembered. The cavern with its unusual formations, its beauty of coloring and immense proportions, was indeed a surprise to those who had not seen it.

On our return to Staunton, the delegates viewed the dress parade at the Staunton Military Academy, and that night the doctors and their ladies were treated to a most enjoyable banquet by the Staunton Military Academy, and those who love to think of Virginia fried chicken and country ham will long remember the hospitality enjoyed around this festive board. The informal dance in the gymnasium

of the academy, which followed the banquet, and a drive to the top of Shenandoah Mountain on Friday brought to a close one of the most delightful seasons of enjoyment that it has been our pleasure to experience.

FLORENCE S. HUGHES,
(MRS. T. J. HUGHES),
Va. Press Chairman.

The Medical Association of the Valley of Virginia

Held its annual meeting at a dinner, in connection with the meeting of the Medical Society of Virginia, in Staunton, October 15, and elected the following officers for the ensuing year: President, Dr. D. M. Kipps, Front Royal; vice-presidents, Dr. P. W. Boyd, Winchester; Dr. C. P. Harshbarger, Port Republic, and Dr. Lanier D. Pole, Hot Springs; secretary, Dr. Alex. F. Robertson, Jr., Staunton, and treasurer, Dr. J. M. Biedler, Harrisonburg.

The Northern Neck Medical Society

Held its regular meeting in Fredericksburg, Va., October 23, Dr. G. B. Harrison, of that city, presiding. There was an attendance of approximately fifty physicians. A number of Washington, D. C., and Richmond doctors read papers. It was decided to hold the next meeting in Warsaw, Va., and the following officers were elected for the coming year: President, Dr. R. E. Booker, Lottsburg; vice-president, Dr. B. A. Middleton, Emmerton; secretary, Dr. M. C. Oldham, Lancaster; treasurer, Dr. C. T. Peirce, Nuttsville.

The Amelia County Medical Society

Held its first meeting in three years on October 10, 1924, ta which time Dr. J. M. Habel, Jetersville, was elected delegate to the State Society meeting. All the members in the county except one were present. The society agreed upon uniform charges for services and each member was given a list of doctors' "dead beats" in the county. Dr. P. T. Southall, Amelia, was elected president, and Dr. Geo. A. Arhart, Amelia, secretary.

The Sussex County Medical Society

Met on October 9th and elected Dr. Joel Crawford, Yale, delegate to the State Society meeting and Dr. H. G. Stoneham, Waverly, alternate. Dr. T. M. Raines, Wakefield, was re-elected president, and Dr. C. P. Neblett, Waverly, secretary.

The Louisa County Medical Society

Held a meeting on October 2nd, at which time Dr. H. S. Daniel, Louisa, and Dr. W. C. Mason, Gordonsville, were elected delegate and alternate, respectively, to the Staunton meeting of the Medical Society of Virginia. Officers elected at this meeting for the ensuing year are: President, Dr. H. W. Judd, Mineral; vice-president, Dr. E. Barbour Pendleton, Cuckoo; secretary-treasurer, Dr. W. C. Mason, Gordonsville.

The Roanoke Academy of Medicine,

At its annual meeting on October 6th, elected Dr. S. Beverly Cary, Roanoke, president for the ensuing year, and Dr. Frank A. Farmer, also of Roanoke, secretary-treasurer.

The Truth About Medicine

In addition to the articles enumerated in our letter of August 29th, the following have been accepted:

Abbott Laboratories
- Metaphen
  - Metaphen Solution 1:5,000.

Swan-Myers Company
- Sterile Ampules of Mercury Benzoate, 2 per cent.
- Sterile Ampules of Mercury Biniodide (Oil Solution).
- Sterile Ampules of Mercury Salicylate, 0.097 Gm., (1½ Gr.)
- Sterile Ampules of Mercury Salicylate, 0.065 Gm., (1 Gr.)
- Sterile Ampules of Mercury Succinimide, 0.01 Gm., (1/6 Gr.)

NEW AND NONOFFICIAL REMEDIES

Medicinal dyes—The dyes which are used in medicine may be divided into five classes: (1) the azo dyes, of which scarlet red medicinal and scarlet red sulphonate are described in New and Nonofficial Remedies; (2) the acriflavine dyes, such as acriflavine, neutral acriflavine and proflavine; (3) the fluorescine dyes, usually combined with metal mercury such as mercurochrome-220 soluble and flumerin; (4) the triphenolmethane or rosaniline series, such as gentian violet, crystal violet, methyl violet and fuchsin, and (5) miscellaneous dyes, such as methylene blue, phenolsulphonephthalein and tetrabromphenolphthalein. In order to obtain comparable results when employed clinically, dyes should be of constant composition. The triphenolmethane (rosaniline) dyes include fuchsin and the closely related violet dyes, gentian violet, crystal violet and methyl violet. Of these, gentian violet is the one that has been used chiefly in medicine. It is stated to have the property of great penetration; to be bactericidal also bacteriostatic in vivo toward selective organisms. Its chief use has been in the treatment of infections of the pleural cavity and of the joints. The intravenous use of gentian violet has also been proposed in staphylococcus septicemia, chronic cystitis, osteomyelitis.

Gentian Violet Medicinal.—A mixture of pentamethylpararosaniline and hexamethylpararosaniline chlorides. For direct application, a solution of from 1:500 to 1:1,000 may be employed; for instillation,

XUM

a 1:10,000 solution. For intravenous use, 5 Mg. per Kg. of body weight, injected in 0.5 per cent solution has been used.

Gentian Violet Improved Medicinal—A brand of gentian violet medicinal-N. N. R. Coleman and Bell Co, Norwood, Ohio.

Gentian Violet Medicinal-"National"—A brand of gentian violet medicinal N. N. R. National Aniline and Chemical Co., New York.

Insulin-Stearns Quadruple Strength — Insulin-Stearns (see Journal A. M. A., June 14, 1924, p. 1937) marketed in 5 c.c. vials containing forty units in each c.c. Frederick Stearns and Co., Detroit.

Sulpharsphenamine-Squibb, 1 Gm. Ampules—Each ampule contains sulpharsphenamine-Squibb (see New and Nonofficial Remedies, 1924, p. 68) I Gm. E. R. Squibb and Sons, New York.

Sulpharsphenamine-Squibb, 3 Gm. Ampules—Each ampule contains sulpharsphenamine-Squibb (see New and Nonofficial Remedies, 1924, p. 58) 3 Gm. E. R. Squibb and Sons, New York.

Diphtheria Toxin-Antitoxin Mixture (New Formula)—Diphtheria toxin-antitoxin mixture-Squibb (see New and Nonofficial Remedies, 1924, p. 298) marketed in packages of thirty 1 c.c. ampules. E. R. Squibb and Sons, New York.

Antistreptococci Serum-Squibb—Antistreptococcus serum-Squibb (see New and Nonofficial Remedies, 1924, p. 305), marketed in packages containing one 10 c.c. syringe; in packages containing one 50 c.c. vial. E. R. Squibb and Sons, New York.

Antistreptococcic Serum Rheumatic-Squibb—Antistreptococcic serum rheumatic-Squibb (see New and Nonofficial Remedies, 1924, p 305), marketed in packages of one 20 c.c. vial; in packages of one 50 c.c. vial. E. R. Squibb and Sons, New York. (Journal A M. A., Sept. 6, 1924, p. 767).

Ampules Pituitary Solution-Wilson, 0.5 c.c.—Each ampule contains pituitary solution-Wilson (see New and Nonofficial Remedies, 1924, p. 229) 0.5 c.c. Wilson Laboratories, Chicago.

Thiosinamine.—Thiosinamina. Allylthiourea. Thiosinamine is being used against arsphenamine dermatitis. This use is still in the experimental stage. Thiosinamine was originally introduced to promote absorpton of scar tissue, lymphatic swellings, etc. Its restricted use indicates that it has little if any value for this purpose. Although it is usually well borne, except for its bitter taste and acid eructation, it may produce toxic systemic effects, and these may set in suddenly after it has been used for a time without toxic effects. (Journal A. M. A., Sept. 13, 1924, p. 843).

Oridine—The calcium salt of the iodized fatty acids of cottonseed oil. It contains from 23 to 25 per cent of iodine in organic combination. Oridine acts in the system similarly to the inorganic iodides. The iodized fatty acid radicle of oridine is not decomposed in the stomach but a part of the iodine is split off when it enters the intestine. The undecomposed portion is readily absorbed and, as in the case of other fats, it is largely deposited in the tissues where it is slowly split up. As with other iodized fats, the action of oridine is exerted more slowly than that of inorganic iodides. Oridine is marketed in powder and as oridine tablets for the prophylaxis of goiter, containing oridine equivalent to iodine 0.01 Gm. Eli Lilly and Co., Indianapolis. (Journal A. M. A., Sept. 20, 1924, p. 921).

Rabies Vaccine (human), Phenol Killed—An antirabic vaccine (see New and Nonofficial Remedies, 1924, p. 306) prepared according to the general method of David Sempel. The product as sold contains brain substance 2 per cent, and phenol 0.5 per cent suspended in physiological sodium chloride solution. It is marketed in packages of 14 vials and a syringe, and in a package containing 21 vials and a syringe. Jensen-Salsbery Laboratories, Inc., Kansas City, Mo. (Journal A. M. A., Sept. 27, 1924, p. 1001).

PROPAGANDA FOR REFORM

BioFood—This is a "patent medicine" combination put out by a concern that seems to go under various names: "Biochemical Food Products Corporation," "Bio-Products Company," and "BioFood Corporation." BioFood has been shrewdly and cleverly marketed. The impression is given that the stuff is a food and not a medicine. Its high price —ten dollars a treatment—impresses the public with its value. The treatment consists of a box labeled "A" and two bottles labeled, respectively, "B" and "C." BioFood is sold with the claim that our bodies are composed of twelve tissues containing sixteen elements, that our foods are deficient in these elements and that BioFood supplies this deficiency and thus "builds up the body by supplying all the elements which nature intended man to have and thus gives nature a chance to create her own antitoxins and effect a cure." BioFood has been advertised extensively in newspapers, in self-styled medical journals and by cruelly mendacious advertisements in the Chicago street cars. The A. M. A. Chemical Laboratory reports that BioFood "A" may be considered to be composed essentially of milk, sugar and flavoring in which has been incorporated small amounts of iron, calcium and manganese salts and phosphate, either as such or in combination such as glycerophosphate. The Laboratory found BioFood "B" to be tablets which may be considered to consist essentially of potassium acetate, sodium chlorid, sodium sulphate and sodium citrate. BioFood "C" was a liquid resembling solution of iron and ammonium acetate, U. S. P., modified by the addition of very small amounts of calcium, magnesium and sodium and phosphate compounds. (Journal A. M. A., Sept. 6, 1924, p. 782).

The Ban on Heroin—As long ago as 1917, the Council on Pharmacy and Chemistry deleted heroin from its handbook of Useful Drugs, saying: "The Council holds that heroin has no advantage over morphin; that it has every disadvantage of morphin; and that on the whole its introduction has been harmful, in that it furnished a specious means on the one hand of avoiding the well founded popular fears of morphin by substituting another habit-forming drug." In 1920 the House of Delegates resolved, "That heroin be eliminated from all medicinal preparations; that it should not be administered, prescribed or dispensed; and that the importation, manufacture or sale of heroin should be prohibited in the United States." The recent Congress enacted, June 7, 1924, a bill prohibiting the importation of opium intended for the manufacture of heroin. The Federal Narcotic Control Board has announced that it will not authorize the importation of any opium intended to replace opium or morphin thereafter converted into heroin. This will prevent the open manufacture of heroin in the United States, and as none can be lawfully imported, heroin will soon disappear from the legitimate market. (Journal A. M. A., Sept. 6, 1924, p. 784).

"P-O-4" Not Admitted to N. N. R.—The Council on Pharmacy and Chemistry reports that "P-O-4" is the proprietary nondescriptive designation under which Lehn and Fink, Inc., New York, market a preparation alleged to be a mixture of two parts of tribasic magnesium phosphate and one part of tribasic calcium phosphate. The preparation is claimed

to be a "therapeutically balanced" mixture which is "A New Antacid for symptoms of hyperacidity, such as 'acid' stomach, pain, heartburn, acid regurgitation, distress and gas." The Council explains that, in order that a correct estimate of the therapeutic value of tertiary magnesium phosphate and tertiary calcium phosphate may be gained, it is important that physicians use them under their proper names and base the selection of one or the other on the requirements of the particular patient. The Council found "P-O-4" inadmissible to New and Nonofficial Remedies because the use of a mixture of tertiary calcium phosphate and tertiary magnesium phosphate in fixed proportions under a nondescriptive name is irrational and the claim that it is "a therapeutically balanced" mixture is unwarranted. (Journal A. M. A., Sept. 13, 1924, p. 861).

The Forthcoming U. S. Pharmacopeia. The committee elected in May, 1920, for the revision of the United States Pharmacopeia has practically completed its work. The responsibility for the scope of the new book was placed on the twenty-one physician members of the committee so that the new edition should be more fully representative of the therapeutically valuable drugs than formerly. The number of medicinal substances to be included in the book is less than 650. Among the additions are acetyltannic acid, acetylsalicylic acid, barbital, phenobarbital, albumin tannate, amidopyrin, strong silver protein, mild silver protein, arsphenamin, ethylaminobenzoate, barium sulphate, calcium iodobehenate, carbon tetrachlorid, carbromal, chloramin, chlorinated paraffin, dextrose, dichloramin, epinephrin, neoarsphenamin, chaulmoogra oil, phenolsulphonphthalein, procaine hydrochlorid, quinidine sulphate, quinine ethylcarbonate, sodium diphosphate, barbital sodium, whiskey, brandy, thyroxin. Most of these are products of recognized therapeutic or diagnostic usefulness. Many of the preparations are already described in Useful Drugs and a still larger number are included in New and Nonofficial Remedies. In many cases the descriptions and standards in New and Nonofficial Remedies have been adopted for the new Pharmacopeia. In the new book obligatory biological tests are given for the following drugs and their preparations: aconite, cannabis, digitalis, epinephrin solution, ergot, pituitary solution, squill and strophanthus. With many of the useless or doubtfully valuable drugs eliminated and with the addition of a number of substances of demonstrated merit, the new Pharmacopeia will deserve greater support from the medical profession than has been the case with previous editions of the book. (Journal A. M. A., Sept. 20, 1924, p. 923).

The Scientific American on Abrams' "Electronic Reactions"—In October, 1923, the Scientific American announced that it was undertaking an investigation of the "Electronic Reactions of Abrams" and electronic medicines in general. The Scientific American has published twelve papers and the last has now appeared. The result of the exhaustive investigation of the committee may be summed up: The electronic reactions of Abrams and electronic medicine in general is found utterly worthless. This is expressed a little more in detail in the opening paragraph of the last article: "The so-called Electronic Reactions of Abrams do not exist—at least objectively. They are merely products of the Abrams practitioner's mind. These so-called reactions are without diagnostic value. And the Abrams oscilloclast, intended to restore the proper electronic conditions in the diseased or ailing body, is barren of real therapeutic value. The entire Abrams' technique is not worthy of serious attention in any of its numerous variations. At best, it is all an illusion. At worst, it is a colossal fraud." (Journal A. M. A., Sept. 20, 1924, p. 939).

Mercurochrome-220 Soluble and Gentian Violet Intravenously—Reports on the intravenous use of mercurochrome-220 soluble and of gentian violet have been published. These drugs, when administered intravenously, are used in recently prepared aqueous solution. Of mercurochrome, 5 mg. per kg. of body weight appears to be generally used. It is used in a 1 per cent solution. Of gentian violet, 0.25 per cent of an aqueous solution is used; the dosage being 5 mg. per kg. of body weight. Mercurochrome-220 soluble marketed by Hynson, Westcott and Dunning, Baltimore, gentian violet medicinal-"National" of the National Aniline and Chemical Co., New York, and gentian violet improved medicinal of Coleman and Bell Company, Norwood, Ohio, have been accepted for New and Nonofficial Remedies. (Journal A. M. A., Sept. 20, 1924, p. 942).

Hectine—Hectine is said to be sodium benzosulphoaminophenyl-arsenate and, therefore, is similar in composition to the product "Atoxyl." Atoxyl is one of a class of arsenical preparations, the use of which has been generally discontinued in favor of the products of the arsphenamin types. Hectine has not been accepted for New and Nonofficial Remedies, nor has the American agent, George J. Wallau, Inc., requested such recognition by the Council on Pharmacy and Chemistry. (Journal A. M. A., Sept. 20, 1924, p. 942).

Asthma-Tabs—The Asthma-Tabs Laboratories of Kansas City, Mo., conducts a piece of mail-order quackery in the sale of an alleged cure for asthma known as "Asthma-Tabs." The point of contact between quack and victim is, as usual, the venal or careless newspaper or magazine which sells its advertising space to herald the false statement of the Asthma-Tabs promoter. As usual, trial treatments are offered at a sliding scale of prices. The A. M. A. Chemical Laboratory analyzed this alleged "asthma cure" and concluded that each "Asthma-Tab" contains the equivalent of: potassium iodid, 0.35 gm.; potassium sulphate, 0.15 gm.; arsenic trioxid, 0.0005 gm. Thus this asserted new discovery contains as its essential constituents two drugs—potassium iodid and arsenic trioxid—that have been used for a generation in the treatment of asthma and may easily both be harmful and dangerous when used without care or in ignorance of their action. (Journal A. M. A., Sept. 27, 1924, p. 1018).

Guaisodide—No report of Guaisodide of George A. Breon has been published by the Council on Pharmacy and Chemistry and no product of the firm has been accepted for New and Nonofficial Remedies. Many of the preparations of the Breon Company are intravenous specialties marketed under nondescriptive proprietary names. Some of these bear a strong resemblance to intravenous specialties that have been the subject of adverse reports by the Council on Pharmacy and Chemistry. Thus Guaisodide is similar in composition and claims to "Venodine," which was reported on adversely by the Council. Like Venodine, Guaisodide is stated to be a solution containing sodium iodid, guaiacol and creosote. The report of the Council on Venodine brings out that there is no reason for resorting to the intravenous administration of iodids. Further, the Council pointed out that the indiscriminate administration of iodids for pulmonary tuberculosis is strongly to be condemned. Also, the Council holds that there is no evidence to warrant the intravenous administration of guaiacol and creosote and that the combination of two such similar substances as creosote and guaiacol (the second a constituent of the first) is irrational. (Journal A. M. A., Sept. 27, 1924, p. 1021).

XUM

Virginia Medical Monthly

FOUNDED BY LANDON B. EDWARDS, M. D., APRIL, 1874.
OWNED BY THE MEDICAL SOCIETY OF VIRGINIA.
PUBLISHED BY THE PUBLISHING COMMITTEE.

A. G. BROWN, Jr., M. D., Chairman, Richmond, Va.

B. R. TUCKER, M. D., Richmond, Va.
P. W. HOWLE, M. D., Richmond, Va.
E. L. KENDIG, M. D., Victoria, Va.
A. L. GRAY, M. D., Richmond, Va.

ALEX. G. BROWN, Jr., M. D., Editor.

AGNES V. EDWARDS, Business Manager and Secretary-Treasurer.

All correspondence regarding editorial matters, articles, advertisements, subscription rates, etc., should be addressed to the Journal.

All advertisements are received subject to the approval of the Council on Pharmacy and Chemistry of the American Medical Association.

Subscription Price: $2.00 per annum in advance.
Single Copies 20c.

Vol. 51 NOVEMBER, 1924 No. 8

Editorial

Direct Blood Stream Infection From Diseased Tonsils.

From Crowe's paper* it appears that prior to 1916, he held that the tonsils or adenoids were not responsible for general systemic infection, such as local or general arthritis, unless there was evident enlargement of the lymph glands in the neck. Holding this view, patients were advised, in the absence of such glandular enlargement, that an operation for the removal of tonsils and adenoids was not indicated. But later he found these patients suffering with systemic disturbance, without evident glandular enlargement in the neck, were operated upon elsewhere and received manifest relief from systemic symptoms. This observation aroused an interest in the subject and Crowe began a histologic study of a collection of tonsils and adenoids removed from 3,000 patients during the past ten years in order to determine whether or not a direct infection by the vascular system could be demonstrated. The generally accepted histologic factors found in chronic tonsillitis are: (1) a loss of epithelium on the surface or in the crypts; (2) the presence of masses of keratinized epithelial cells in the crypts; (3) hyperplasia of endothelial cells; (4) accumulation of plasma cells, lymphocytes and leukocytes around the margin of the crypts; (5) evidence of hemorrhage in the parenchyma or in the lumen of the crypts; (6) the presence of polymorphonuclear cells and lymphocytes in the epithelium lining of the crypts; (7) the presence of bacteria in the crypt epithelium and in the parenchyma of the tonsil (probably in the lymph channels or blood vessels); (8) thickening of the capsule and increased fibrosis of the trabeculae. The foregoing specifications of pathology in chronic tonsillitis, as well as in acute tonsillitis, are not complete without adding the invariable association in acute, and frequent association in the chronic, of the visible enlargement of the lymph glands of the deep cervical group near the angle of the jaw. By this sign the connection between the diseased tonsil and systemic disturbance was identified.

Crowe's later study of the diseased tonsils showed that the epithelium on the surface and the epithelium lining the crypt differ in blood supply. The epithelium on the surface of diseased tonsils was unchanged, but there was destruction and ulceration of the epithelium lining the crypt and the thrombosis of blood vessels was found. These findings suggest direct blood stream infection. Crowe goes on to say that the crypt has papillae and rich network of capillaries. The destruction of the crypt epithelium is a very common find in chronic tonsillitis; in some the ulcerated areas in the crypt were healed; in some there were definite chronic ulcers. These ulcerated areas were surrounded with plasma cells, lymphocytes and leukocytes. A rich network of the thrombosed capillaries and lymph channels around the margin of the ulcer appeared to be favorable for blood stream infection as well as for lymph stream.

*Archives of Internal Medicine, April 15, 1924.

Diagnosis of Diseases of the Mediastinum.

The mediastinum is often overlooked in physical diagnosis. Its diseases, or symptoms arising from the mediastinum, may be unrecognized as such unless gross obtrusive signs or symptoms appear. It is no easy matter to make a differential diagnosis of diseases of the mediastinum. It is necessary for the clinician to bring into play every agency obtainable. Physical diagnosis is at its highest level in this differentiation. The physical diagnostician may need to employ every power of his art to satisfy the requirements of a baffling group of symptoms arising from the pathology in one or another arbitrarily subdivided parts of the mediastinum. Let us recall the contents of these subdivisions, remembering the mediastinum includes the space bounded in front by

the sternum and laterally by the reflections of the pleurae and behind by dorsal vertebrae.

The Superior Mediastinum:

(a) The arch of the aorta and the vessels arising from it.
(b) The innominate vein.
(c) The superior vena cava.
(d) The thymus gland.

It is traversed by the trachea, esophagus, thoracic duct, vagus, phrenic and sympathetic nerves.

The Anterior Mediastinum (very shallow, lying in front of the pericardium).

(a) Lower portion of the thymus.
(b) A few lymphatic glands.

The Middle Mediastinum:

(a) The heart and its pericardium.
(b) The termination of the inferior vena cava.
(c) The roots of the lungs (partly).

The Posterior Mediastinum:

(a) Esophagus.
(b) The descending aorta.
(c) The thoracic duct, the azygos veins.
(d) The pneumogastric and sympathetic nerves.

The gland groups of the mediastinum are: (a) anterior mediastinal glands, situated between sternum and pericardium; (b) superior mediastinal glands, situated in front of the upper part of the pericardium, the arch of the aorta and the left innominate vein; (c) the posterior mediastinal glands situated along the course of the aorta and esophagus; (d) the bronchial glands situated along the main bronchi and the roots of the lungs in front and behind the bifurcation.

With these important anatomical structures, coursing through these compartments of the mediastinum, it is rather easy to understand the train of symptoms that may arise in mediastinitis (simple, indurative, suppurative, or tuberculous); in mediastinal hemorrhage; in mediastinal emphysema; or mediastinal tumors.

Pressure symptoms are important mediastinal symptoms:

(a) *Veins*: Obstruction and pressure on the superior vena cava results in cyanosis of the face, injection of the conjunctiva, exophthalmos, edema of the face, neck, upper part of the thorax and arms, and distention of superficial veins in face, neck and trunk;

(b) *Vena azygos major*: Dilatation of the intercostal veins, right-sided hydrothorax, and possibly pericardial effusion;

(c) *Arteries*: Pressure on the aorta and its branches causes unequal pulse beats in radial and carotid and dilatation of the left heart; pressure on the pulmonary artery results in engorgement of the right heart with its symptoms.

The Air Passages: Pressure on trachea produces stridor, dyspnoea, persistent coughing and occasionally hemoptysis;

Esophagus: Pressure here produces dysphagia and localized pain resulting in regurgitation of food, emaciation and weakness;

Thoracic duct: Pressure causes chylothorax, chylous ascites and emaciation;

Heart and Pericardium: Pressure results in displacement, irregular action and effusion of the pericardium;

Nerves: Compression (1) on the vagus results in bradycardia or, if sufficiently blocked, tachycardia, nausea, vomiting and intestinal disturbances; (2) on the recurrent laryngeal nerves causes stridor, inspiratory dyspnoea, and resounding cough; (3) on the sympathetic nerves causes contraction and dilatation of the pupil on the affected side; (4) on the phrenic nerve produces hiccough; (5) on the intercostal nerves results in a neuralgic pain.

Simple mediastinitis may be associated with pericarditis, pleurisy, pneumonia or syphilis; indurative mediastinitis, with adhesions and compression symptoms, may result from previous pathology of an acute nature; suppurative mediastinitis may ensue as a result of infections of adjacent organs or structures in the cavity. Tuberculous disease of the gland group, traversing the mediastinal subdivisions, may result in symptoms. Tuberculous mediastinitis is a common condition in children, associated with glands of the neck.

Tumors of the mediastinum may be benign or malignant. The benign tumors include (1) lipoma, (2) fibroma, (3) osteoma, (4) chondroma, (5) dermoid cysts and intrathoracic goiter. The primary malignant tumor is sarcoma and the secondary is carcinoma.

From such pathology, in addition to fever and blood changes, occurring in the inflammatory processes, the pressure symptoms appear according to the number, nature, position and degree of structures involved. The physical signs, likewise, depend upon the size and press-

XUM

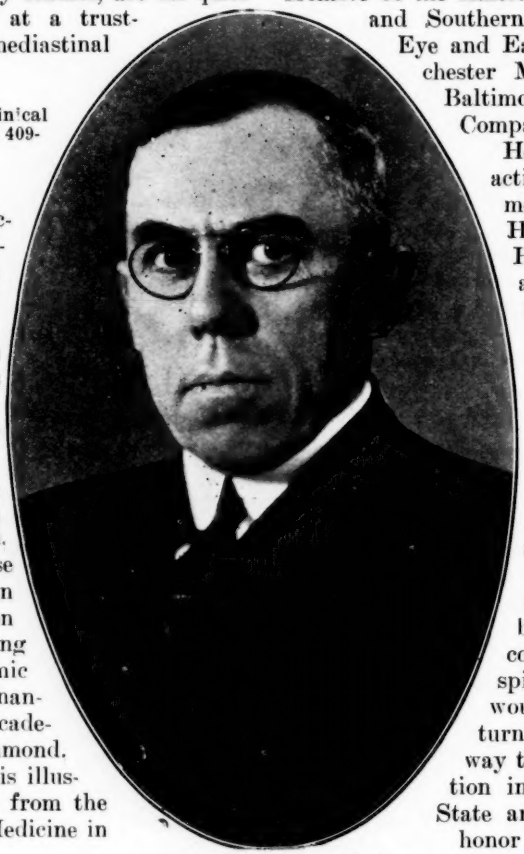
ure effects of the inflammation or tumor mass. Percussion discloses a widening of the mediastinal area by dullness; auscultation will reveal various signs according to the pressure effects in the lungs, pleurae, heart and pericardium. The X-rays, the laboratory examinations, the laryngoscopic and ophthalmoscopic examinations are also important.

After all, the history, the clinical evolution, the symptomatology, the physical examination, together with laboratory studies, are all quite necessary in arriving at a trustworthy. diagnosis in mediastinal diseases.

REFERENCE
Phillips in Annals of Clin'cal Medicine, May, 1924, pp. 409-415.

Our New President

Hunter Holmes McGuire was born in Winchester, Va., on March 30th, 1875. He is the son of Dr. Wm. P. McGuire and the grandson of Dr. Hugh Holmes McGuire. He is the nephew and namesake of the late Hunter McGuire, of Richmond, Va. By birth, rearing, precept, and tradition, there seemed no course open to this young man other than the profession of medicine. So, having completed his academic education at the Shenandoah and Winchester Academies, he came to Richmond, and under the eye of his illustrious uncle, graduated from the University College of Medicine in 1897.



HUNTER HOLMES McGUIRE, M. D.
President Medical Society of Virginia.

Having decided upon a career in the special work upon diseases of the eye, ear, nose and throat, he took post-graduate courses at Johns Hopkins Hospital, the New York Eye and Ear Infirmary and later at the Philadelphia Polyclinic. Upon the completion of his post-graduate work he established himself in Winchester, where he has since practiced.

The enviable place he has won for himself in the profession is attested by the positions of trust that he has held: President of Winchester Memorial Hospital since its organization, in 1903; Past President of the Virginia Society of Oto-Laryngology and Ophthalmology; First Vice-President of the American Academy of Ophthalmology and Oto-Laryngology in 1923; Past President of the Valley Medical Association; Member of the American Ophthalmological Society, and American Academy of Ophthalmology and Oto-Laryngology; Fellow of the American College of Surgeons; Member of the American Medical Association and Southern Medical Association; Eye and Ear Surgeon to the Winchester Memorial Hospital and Baltimore and Ohio Railway Company.

He has always taken an active part in all the civic movements of Winchester. He is a member of the Handley School Board and a Trustee of the Shenandoah Valley Academy.

There was probably never before a more popular choice by the Council for its president. As Hunter McGuire stood on his crutches before the large audience in Staunton while acting for the absent president, one could but wonder at the sheer courage of the man. In spite of handicaps that would have made most men turn back, he had won his way to the most coveted position in the profession of his State and received the highest honor his fellows could bestow upon him.

W. L. P.

News Notes

The Staunton Meeting

Of the Medical Society of Virginia is one long to be remembered for the generous hospitality extended us. The only regret of the meeting was the absence of our President, Dr. W. W. Chaffin, who was detained at home on

account of personal illness. In his absence, the first vice-president, Dr. Hunter H. McGuire, of Winchester, presided. The other vice-presidents, Drs. R. B. James, Danville, and O. T. Amory, Newport News, assisted.

Exclusive of the ladies and the commercial exhibitors, there was a registered attendance of three hundred and seventy-two and all sections of the State were represented. Dr. Alex. F. Robertson, Jr., general chairman, and Mrs. Franklin M. Hanger, chairman of the Ladies' Committee, with their able assistants, were on hand constantly, looking after the pleasure of the visitors. The weather seemed especially ordered and added to the enjoyment of the lovely rides.

In the golf tournament, which was held on the first day, Dr. Thomas W. Murrell, Richmond, won against nine competitors, and holds for a year the cup donated in 1923 by the Roanoke Academy of Medicine. It is to be held permanently by the winner of two consecutive tournaments at the State meetings. Dr. W. B. Porter, Roanoke, was runner-up in this year's tournament.

The Woman's Auxiliary held its regular meeting on Wednesday, the 15th, and was largely attended. A report of the meeting appears in this issue of the journal.

The same day a reception was tendered the ladies at Mary Baldwin College and a musicale was given for them at Stuart Hall in the evening. A number of the visitors availed themselves of the invitation extended by the Rev. Mr. A. M. Fraser and his wife, to visit the manse of the First Presbyterian Church, the house in which Woodrow Wilson was born. Upon conclusion of the scientific sessions, a buffet dance was given at Hotel Stonewall Jackson. Another interesting feature on Wednesday, was the get-together supper of the alumni of the Medical College of Virginia, which was largely attended.

On Thursday, the 16th, the visitors were given the choice of a trip through the Grottoes of Shenandoah or a ride to the top of Shenandoah Mountain. It is impossible to tell of the beauties of these trips, for it is hard to find a more lovely country than the Valley of Virginia. On returning, dress parade was witnessed at Staunton Military Academy. Later, the members and ladies were tendered a most excellent supper by this school, and the evening closed with a dance. The general meeting that evening was held at the Academy, also, at which time our invited guests, Drs. A. J. Ochsner and Daniel A. Orth, of Chicago, and John Osborn Polak, Brooklyn, presented their papers.

Dr. Hunter H. McGuire, Winchester, was elected president for the coming year. Names of other officers are given under Proceedings of Societies, in this issue. The Council is to decide upon the time and place of the next meeting. It is not too early to begin planning now to be on hand then. There is nothing that makes a member more interested in his State Society than attendance upon the annual meetings, and the co-operation of all members is needed for the success of our organization.

The Clinical Congress of the American College of Surgeons

Held its annual meeting in New York City, October 20-24, under the presidency of Dr. Charles H. Mayo, Rochester, Minn. Elaborate clinics were held at the various New York and Brooklyn hospitals in the mornings and afternoons, and the papers were read at evening sessions. The program included some European speakers of international reputation. Dr. Rudolph Matas, New Orleans, was elected president, and Dr. Franklin H. Martin, Chicago, was re-elected secretary-general. The time and place of the next meeting are to be determined upon and will be announced later.

The following Virginia physicians were elected to fellowship this year: Drs. John O. Boyd and Elbyrne Gill, Roanoke; E. T. Trice and Carrington Williams, Richmond; Bernard H. Kyle, Lynchburg; Louis A. McAlpine, Portsmouth; George W. Schenck, Norfolk, and A. M. Showalter, Cambria.

The above named with the following were among those noted in attendance: Drs. F. S. Johns, P. W. Howle, Karl S. Blackwell and E. T. Gatewood, Richmond; E. C. S. Taliaferro and Burnley Lankford, Norfolk, and A. P. Jones, Roanoke.

Pneumonic Plague,

Which has broken out in the Mexican quarter of Los Angeles, California, and taken a toll of twenty-six deaths in twenty-nine cases, is the most readily transmitted and most fatal form of bubonic plague and is readily conveyed by secretions of the mouth and nose. The U. S. government is taking active steps to prevent the spread of this plague and physicians and health authorities should co-operate, as the

XUM

means of travel these days makes it possible for disease to be broadcast so readily. There is no better time than the present for physicians generally to refer to the literature and refresh themselves on the signs and symptoms of this plague that they may be prepared to cope with unsuspecting cases.

Married.

Dr. David Brakenridge Stuart, Dublin, Va., and Miss Mary Jane Park, Richmond, October 13.

Dr. David T. Gochenour, Stuarts Draft, Va., and Mrs. Sue Kendig, October 22, in Washington, D. C.

Dr. Donald M. Faulkner, Richmond, and Miss Isabel Virden, of Cleveland Ohio, September 24.

Dr. William Herman Whitmore, Richmond, and Miss Lucille Virginia Hodges, Danville, Va., October 14.

Dr. Benjamin Elmer Glass, Plainfield, New Jersey, and Miss Libby Shirley Leo, Richmond, November 2. Dr. Glass was a member of the class of '23, Medical College of Virginia, at which time he received appointment as interne at Muhlenberg Hospital, Plainfield.

Dr. Peyton Stark Lewis, Richmond, and Miss Marie Shepherd, Charlottesville, Va., October 14.

Dr. Benjamin Edward Hunt, Jenkinjones, W. Va., and Miss Mary Louise Smith, Bluefield, W. Va., October 11. Dr. Hunt graduated last June from Medical College of Virginia.

To Erect Statue to Dr. Long in Georgia.

Contract has been let for the erection in Georgia of a statue to Dr. Crawford W. Long, discoverer of anesthesia. It is to be of marble and will cost about $9,000. It is expected that this will be completed in about a year.

Scholarships Available.

Scholarships on the Oliver-Rea Foundation for graduate study in Medicine are available at the New York Post-Graduate Medical School and Hospital.

Inquiries should be addressed to the Dean, 301 East Twentieth Street, New York City.

Memorial to Slain Physician.

Friends of the late Dr. Robert L. Powell, of Spotsylvania County, Va., have erected a monument to him near Granite Springs, Va., the place at which Dr. Powell was killed a few months ago. It was unveiled early this month.

Dr. and Mrs. R. W. Selby,

Middleburg, Va., recently visited friends and relatives in Northumberland County, Va.

Dr. and Mrs. Bernard H. Kyle,

Lynchburg, Va., have been spending some time in New York City.

Attend Kiwanis Meeting.

Among those attending the district convention of the Kiwanis Club in Norfolk, Va., recently, were Dr. J. M. Biedler, Harrisonburg, Va., and Dr. E. R. Rogers, of Covington.

Dr. W. W. Chaffin,

Pulaski, Va., is under treatment at Jefferson Hospital, Philadelphia.

Dr. Robert H. Courtney,

Richmond, was elected secretary of the Trinity College Alumni Association of this city, at its recent meeting.

History of Alumni, Medical College of Virginia.

The Executive Committee of the Alumni Association of the Medical College of Virginia has authorized the secretary to collect material for an Alumni History. Questionnaires have been prepared and will be mailed the alumni. These questionnaires are very complete and will not only give an idea of the achievements of various alumni but will also represent a service the Medical College of Virginia is rendering its graduates.

Dr. A. L. Wilson,

Lynchburg, Va., has been elected surgeon for the ensuing year to the Lynchburg Post, No. 16, American Legion.

Noted Success Attends New Hookworm Remedy.

Since the discovery about three years ago, by Dr. Maurice C. Hall, of the U. S. Department of Agriculture, of the usefulness of carbon tetrachloride, a cheap and common chemical, in the treatment of hookworm disease in domestic animals, members of the medical profession in various parts of the world have tried it on human patients with great success. A recent report by Science Service, based on the records of the Rockefeller Foundation, shows that about one and a half million persons have been treated, most of them in tropical or sub-tropical countries, but also many in the temperate zones.

XUM

A few hundred dollars and thirty dogs represent the costs of the investigations in the Bureau of Animal Industry which resulted in the discovery of the superiority of this Chemical in the treatment of this age-old parasite, yet, without considering the increase in human comfort and the saving of human lives, the return has probably been enormous. It has been used in many parts of this country where the parasite exists, but some of the most conspicuous successes have been reported by medical men in distant countries. Some of these reports tell of an increase of efficiency of industrial workers at a cost so low as to seem almost ridiculous.

Dr. David B. Lepper,

Recently of Lebanon, Va., has been made health officer of Isle of Wight County, Virginia, and has headquarters at Smithfield.

Dr. Bernhard Steinberg,

Who located in Boston after a service at Memorial Hospital, Richmond, has received a fellowship from the National Research Council and has been assigned to work at the Medical School of Western Reserve University and the Lakeside Hospital, Cleveland, Ohio. He entered upon his new duties on October 15.

The Society of Neurological Surgeons

Will meet at the clinic of Dr. C. C. Coleman, Richmond, Va., on December the 5th and 6th. Clinics and demonstrations will be held for the two days. Dr. Charles A. Elsberg, of Columbia University, New York City, is president of the Society, and Dr. Ernest Sachs, of Washington University, St. Louis, secretary.

Dr. Harry T. Schiefelbein,

Of New Lisbon, Wis., who graduated from the Medical College of Virginia in the class of '23, has located at Eckman, W. Va.

Automobile Fatalities in 1923.

According to the U. S. Department of Commerce, returns for 1923 show 14,412 deaths that year, resulting from accidents caused by automobiles and other motor vehicles (excluding motorcycles), within the death registration area of the United States, exclusive of Hawaii. The area reported represents 87.6 per cent of the total population of the United States, and gives a death ratio of 14.9 per 100,000 population as against 12.5 in 1922. Among the states, Virginia has the sixth lowest place, with a ratio of 8.3 per 100,000. The only Virginia cities listed in this report are Norfolk and Richmond, with a ratio of 8.2 and 14.4, respectively, per 100,000. No data is available to show how many of the deaths credited to any state or city occurred among the residents of that state or city or resulted from accidents which occurred in that state or city.

The Seaboard Medical Association of Virginia and North Carolina

Holds its next meeting at Rocky Mount, N. C., December 2, 3 and 4, 1924, under the presidency of Dr. William E. Warren, of Williamston, N. C. Dr. Clarence Porter Jones, Newport News, Va., is secretary. Dr. Louis B. Wilson, of the Mayo Clinic, will address a public meeting on cancer and will also speak before the scientific sessions. Senator Copeland, of New York, is expected to address another public meeting on the subject of child welfare. Clinics will be held early each morning in the three hospitals of the city. Entertainment features will be very elaborate.

Southern Medical Association.

Interest is now centering around the meeting of the Southern Medical Association in New Orleans, La., November 24-27. Dr. Charles L. Minor, Asheville, N. C., is president, and Mr. C. P. Loranz, Birmingham, Ala., secretary-manager. The railroads have arranged for reduced rates on the certificate plan and a large attendance is expected. The meeting will be held in a number of special sections and several affiliated organizations will hold meetings at the same time. Apart from the interest of New Orleans as one of the most attractive cities in this country, a number of social affairs will add to the pleasure of those attending. Take your fall vacation by attending this meeting of the Southern Medical Association.

Dr. Charles H. Moncure,

Orange, Va., left the middle of October for a visit to relatives in Asheville, N. C.

Dr. and Mrs. L. F. Hansbrough

Have returned to their home in Front Royal, Va., after a motor trip to Baltimore, Md.

Dr. A. L. Tynes,

Staunton, Va., has been spending some time at his old home in Tazewell, Va.

Mouth Hygiene and Health Exhibit.

From November 10 to December 5, inclusive,

XUM

the Allied Dental Council will have a Mouth Hygiene and Health Exhibit in New York City's Astor Library building. To that exhibit more than three thousand dentists—members of the council—will give their time and money to show the people of New York what's the matter with the mouth.

Dr. Everett S. Barr,

After spending some time at Highland Hospital, Asheville, N. C., has returned to his duties as Medical Director of the Philadelphia Hospital for Mental Diseases. This is the city hospital for mental diseases and has a population of over thirty-five hundred patients. The receiving service is located in the city at Thirty-fourth and Pine Streets. About twelve hundred patients are admitted annually and a hospital of thirteen hundred beds is maintained in the city. The suburban branch of the hospital is located at Byberry, at the edge of the city, but within city limits, where a farm of over a thousand acres is actively cultivated. Twenty-two hundred patients are cared for at Byberry now, but new buildings are being erected there which will care for a thousand more patients. Seven buildings are in course of construction there, costing two and a half million dollars. A new hospital for feeble-minded children has recently been built at Byberry and this hospital also is under Dr. Barr's direction.

Park View Hospital,

Rocky Mount, N. C., announces that Dr. W. Bernard Kinlaw was taken on the medical service of that hospital, as internist, October 1st, and will devote his attention especially to the chest and heart. Dr. Kinslaw was for the past year connected with the staff at the N. C. State Sanatorium for Tuberculosis.

Sheckelford Hospital Enlarged.

The Shackelford Hospital, Martinsville, Va., is making an addition of thirty rooms, which will be up-to-date in every respect. This addition is to be opened in December.

Dr. John W. Scott,

Gordonsville, Va., who has been sick for several months, is now somewhat improved.

Dr. E. M. Gayle

Has returned from Morganton, N. C., to Portsmouth, Va., where he has offices in Professional Building.

Radford General Hospital.

A new hospital is being built on Tyler Avenue, Radford, Va., across from the Normal College. The work is being pushed with the expectation of completion around January 1st. The building is to have four stories, with a capacity for thirty patients and six rooms on the top floor will be used for nurses' quarters. The hospital is being built by the Radford Hospital Building Corporation, composed of the citizens of Radford, with leading citizens forming the board of directors. The hospital is leased to Dr. T. C. Harris, formerly of Kenbridge, Va., and Dr. J. T. Shelburne, formerly of Montgomery County, who will install modern equipment in the building and conduct it as a private institution under the above name.

Dr. P. K. Graybill,

Fincastle, Va., is spending some time in Phoenix, Arizona.

Dr. William J. Crawford,

Of Winston-Salem, N. C., has been elected health officer of Davidson County, North Carolina. Dr. Crawford graduated from Medical College of Virginia in 1922.

Dr. George H. Simmons,

For more than twenty-five years general manager of the American Medical Association and editor of its Journal, now Editor and General Manager Emeritus of the Association, has left for an extended trip to Europe and India.

Dr. Homer B. Luttrell,

Formerly of Amissville, Va., has located at Bramwell, W. Va. Dr. Luttrell graduated from Medical College of Virginia in 1923, at which time he accepted an internship at St. Francis Hospital, Jersey City, N. J.

Dr. Edward Sandidge

Has returned to his home at Amherst, Va., after spending several days in Northumberland County, Va., on a fishing trip.

Dr. Leta J. White,

Who graduated from Medical College of Virginia in 1923, and served an internship at Memorial Hospital, Richmond, was recently appointed a temporary medical inspector in this city during the vaccination campaign against diphtheria.

Dr. O. O. Ashworth

Has returned to Richmond from a visit to New York City, where he was one of the speak-

ers before the annual convention of the Eastern Society of Anesthetists.

The Virginia Registered Pharmacists' Association,

At its annual session in Norfolk, in October, re-elected W. E. Snellings, of Norfolk, as president. It was voted to employ a full-time secretary to look after the interests of the Association.

The Richmond Chapter, Medical College of Virginia Alumni,

At its meeting held the latter part of October, elected the following officers for the ensuing year: President, Dr. Howard Urbach; vice-president, A. L. I. Winne; treasurer, Dr. Frank S. Johns; secretary, Dr. Harry Bear, all of Richmond.

Leprosy in the United States.

Although few people other than physicians ever see a case of leprosy, it is estimated that there are between five hundred and a thousand lepers in the United States. Recently three people have been discharged from the Carville, La., Leprosarium as having no manifestations of leprosy and being to all intents and purposes cured. While the treatment of the disease at the Leprosarium is by no means limited to the use of special preparations of chaulmoogra oil, their use is regarded as an important adjunct of the treatment.

Accommodations for lepers at Carville have never been sufficient to care for all lepers who apply, all of its 211 beds being filled, but there will soon be facilities to care for a total of 415 lepers and it is believed the new buildings will be filled rapidly as there is a long waiting list.

Dr. and Mrs. E. T. Ames,

Montross, Va., were recent visitors in Richmond, having come to attend the marriage of Mrs. Ames' sister.

Dr. A. S. Priddy,

Superintendent of the State Epileptic Colony near Lynchburg, Va., was a recent visitor in Bedford, Va.

Carbon Monoxide Poisoning in Small Garages.

The newspapers recently carried a news item of the death from carbon monoxide poisoning, of a prominent Baltimore man, who was found dead in his garage with the engine of his automobile still running. In view of this, the Surgeon General of the U. S. Public Health Service warns automobile owners of the danger involved in running a gasoline engine in a small closed space for any considerable period of time.

In tests of the exhaust of a small 23-horsepower automobile engine, it has been found that it discharged approximately 25 cubic feet of gas per minute, samples of which gave an average of six per cent carbon monoxide, or 1.5 cubic feet of deadly carbon monoxide gas per minute. Of course larger engines will give off more. Now a ratio of 15 parts carbon monoxide to 10,000 parts of air is considered a dangerous concentration to be exposed to for a considerable time; and the small 23-horsepower engine in "warming up" and giving off only one cubic foot of carbon monoxide per minute would contaminate the air of a small closed garage, 10 by 10 by 20 feet, to the danger point in about three minutes.

Carbon menoxide is a colorless, tasteless, and almost odorless gas.. Its poisonous action depends on the fact that it has a much greater affinity for the hemoglobin of the blood than has oxygen—hemoglobin attracting carbon monoxide about 300 times as strongly as it does exygen. By combining with carbon monoxide, the hemoglobin of the red blood corpuscles is prevented from giving up its oxygen to the tissues. Death results from paralysis of the respiratory apparatus. The attack of carbon monoxide poisoning comes on insidiously, and consciousness is gradually lost. Even though the victim may become aware of the danger he is often unable to escape from it, because of the great loss of motor power.

The automobile worker in a small garage is most frequently the victim. It therefore behooves every person who runs his engine in a small garage to see to it that the room is properly ventilated by having the windows and doors opened if he expects to run the engine for even a few minutes.

General Hines Endorses Red Cross

In a conference with Red Cross officials last July, Brig. Gen. Frank T. Hines, Director of the Veterans Bureau, heartily praised the part that the American Red Cross is playing in helping the service man to secure adequate compensation. The Red Cross, said General Hines, was one of the most effective aids of the bureau.

Since the Armistice the Red Cross has spent $50,000,000 in aiding service and ex-service men

XUM

and women and their families. It is now assisting more than 100,000 each month. To 180,000 soldiers, sailors and marines now on active duty, it is giving the same help it gave during the war. And it has enrolled 41,000 nurses, who are at the call of the Government in emergency—war, disaster or epidemic.

In announcing its Eighth Roll Call, to be held November 11-27, the Red Cross affirms that its first obligation and duty is to the disabled. There are today more than 2,500 chapters carrying on soldier work in their own communities. All this work depends upon the degree to which the American people respond to the Roll Call. The dollar membership dues collected at that time are used to finance the various Red Cross activities, and if the response is weak, by just so much the work suffers. If you believe in this work, do your share by signing up this November.

Measures for Preventing Simple Goiter.

A recent issue of the *Virginia Health Bulletin* was devoted to "Simple Goiter," and told of its cause, prevalence and prevention. It was suggested that, as a preventive, sodium iodide might be mixed with common table salt (sodium chloride), which it much resembles in appearance and taste, and that this salt should be used regularly for cooking and table purposes in sections where goiter is more or less prevalent. The first iodine salt to be distributed through the grocery trade, in compliance with the request of health authorities, has space in our advertising pages. We suggest that you look up this advertisement and, as occasion demands, patronize this and other of our advertisers.

Our advertising is acceptable to the Council on Pharmacy and Chemistry of the American Medical Association, and we depend upon our readers to help our advertisers secure the returns they expect.

Doctors on Library Board.

Drs. Ramon D. Garcin and Beverley R. Tucker have been elected members of the board of directors th the Richmond (Va.) Public Library.

Dr. J. N. Barney,

Fredericksburg, Va., has been elected historian of the Bowen-Franklin-Knox Post, American Legion, of that city.

Dr. M. G. Robinson,

Wytheville, Va., was appointed deputy grand high priest for District 9, at the annual meeting of the Grand Chapter of Royal Arch Masons of Virginia, in Richmond, the latter part of October.

Dr. W. I. Robey,

Recently of Alexandria, Va., announces the removal of his office to 1539 Eye Street, Northwest, Washington, D. C.

Dr. and Mrs. W. E. Price,

Of Meredithville, Va., recently visited friends in Charles City County, Va.

Wanted Assistant Physician

For general practice in industrial section of West Virginia. Salary $150.00 per month. Must furnish references. Address No. 359, care this journal.—(Adv.)

Position Wanted

As doctor's assistant, by undergraduate nurse, with knowledge of stenography, bookkeeping and the simpler routine of laboratory work. Three years' experience as assistant to general practitioner. Splendid recommendations. Willing to start on small salary. Address No. 356, care this journal.—(Adv.)

Wanted

Interne for small hospital. Write qualifications, experience, and salary expected in first letter. Address Box 359, Martinsville, Va.

Obituary

Dr. Edgar Ackley Moore,

Of Marshall, Va., died suddenly at his home on the night of October 24. He was born in Clarke County, Virginia, forty-five years ago and studied medicine at the University College of Medicine, Richmond, from which he graduated in 1905. He had been a member of the Medical Society of Virginia since 1909. Dr. Moore saw service in the World War and was a Mason. His wife, a son, and a large family connection survive him.

Dr. Stephen W. Fielder

Died August 28, at his home in Fries, Va. Death was due to cerebral hemorrhage. Dr. Fielder was seventy-five years of age.

Dr. Robert Emmett Moore

Died at his home at Wytheville, Va., September 11, at the age of eighty-five. He had retired from practice some years ago. Dr. Moore graduated from Medical College of Virginia, Richmond, in 1861.